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APRIL, 1953

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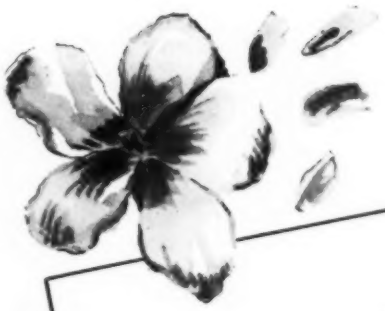

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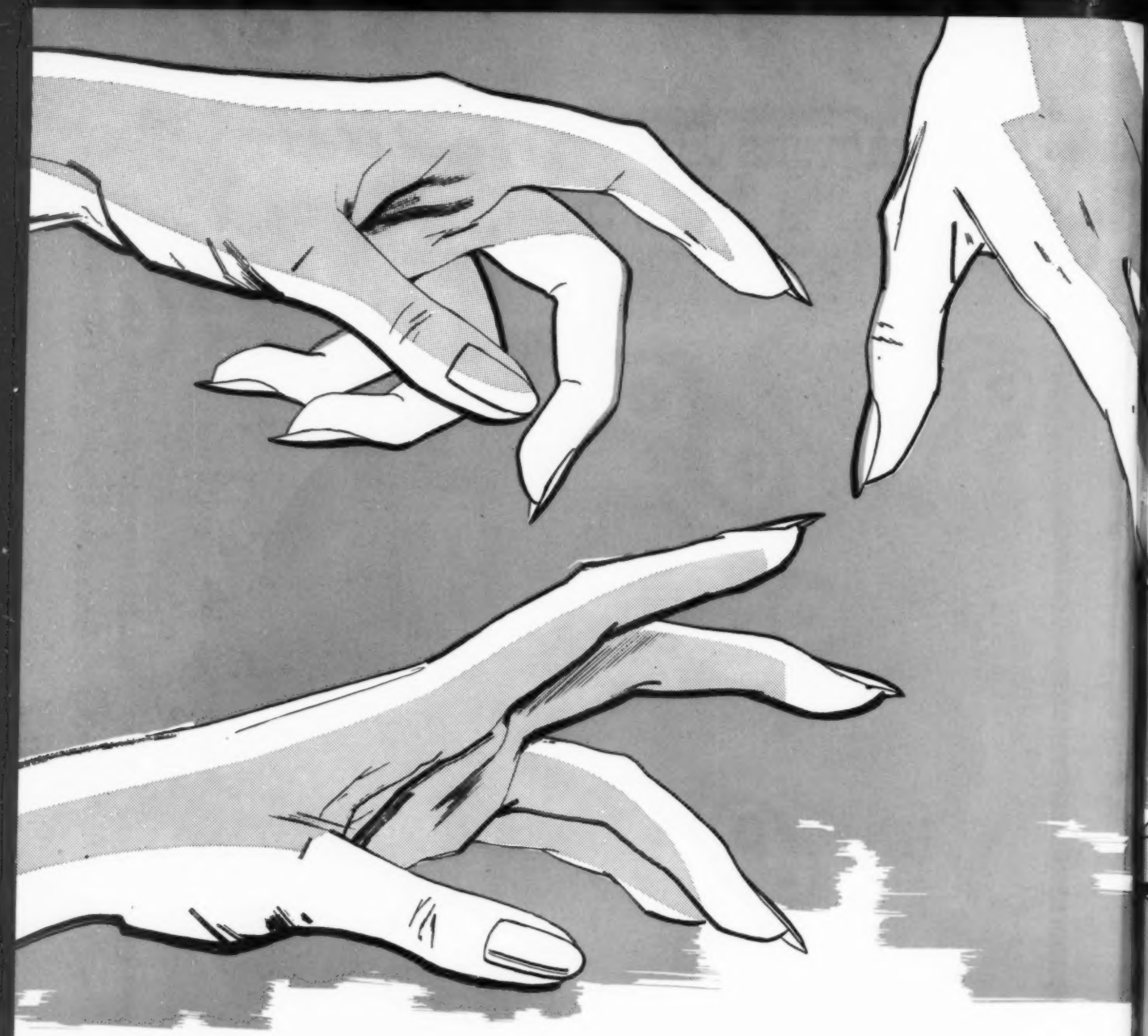

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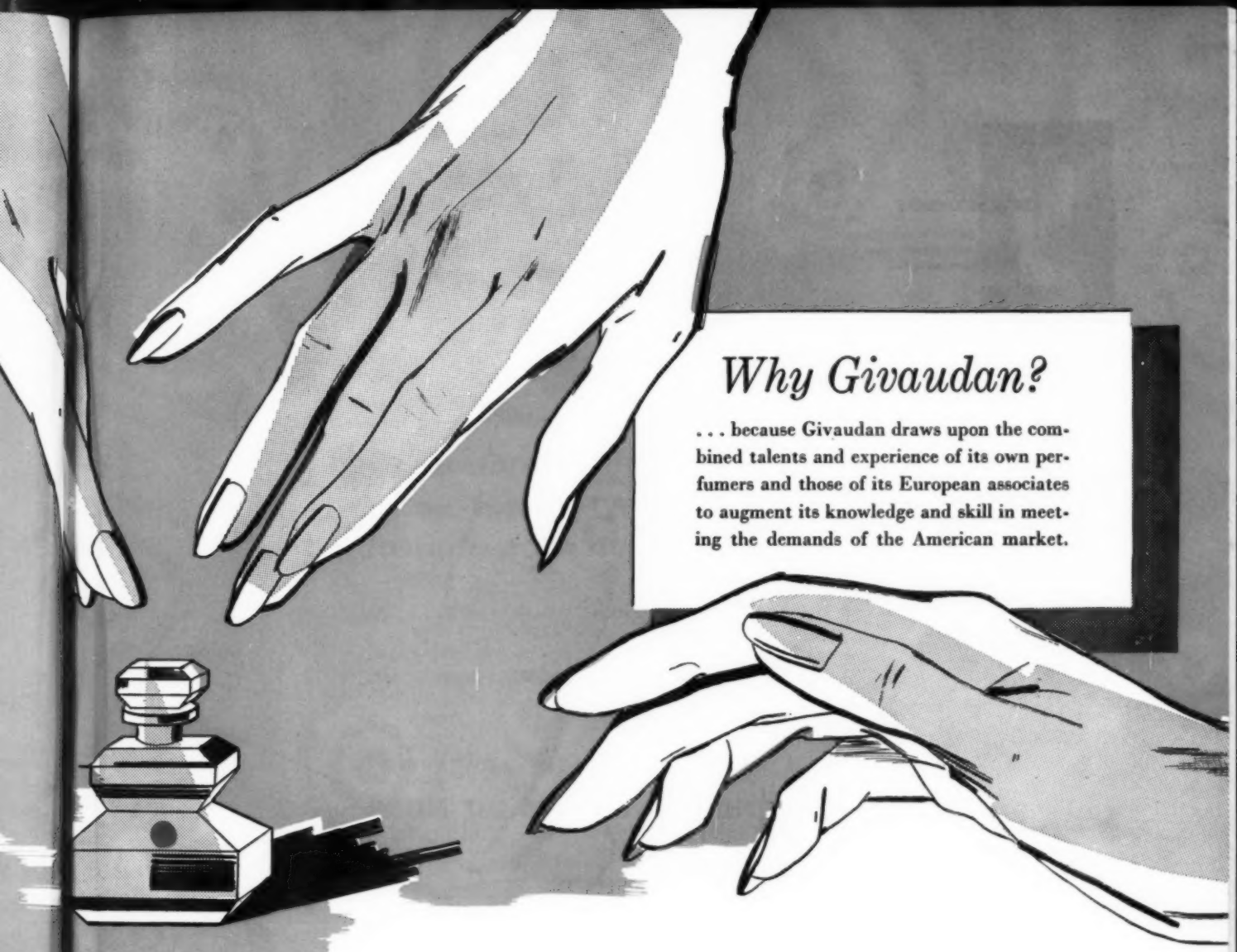

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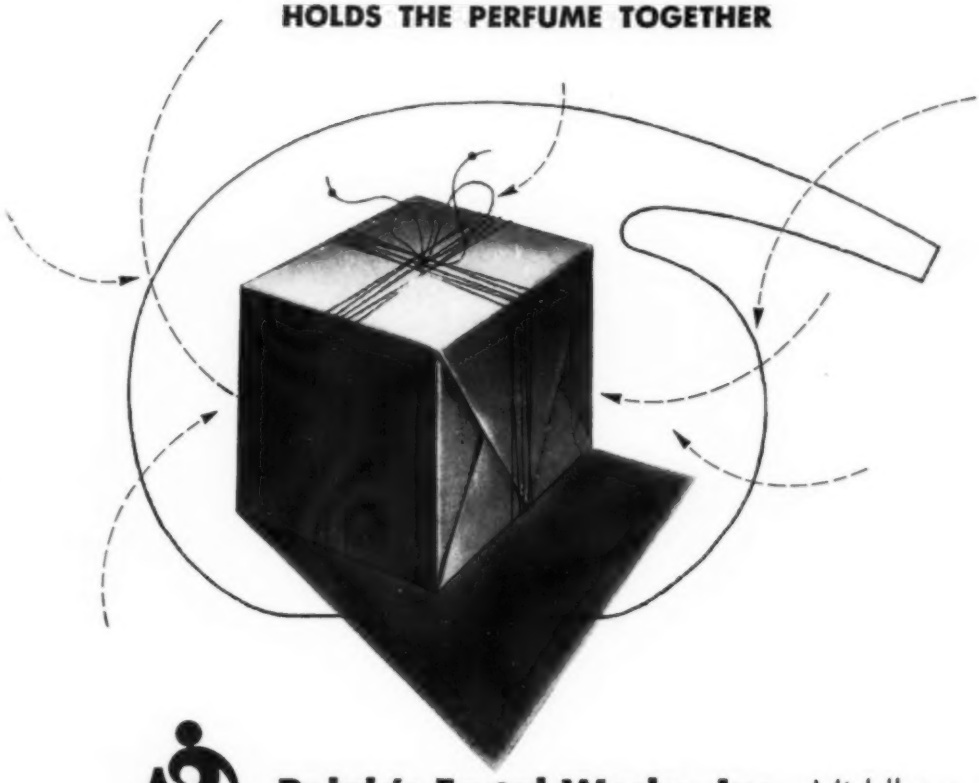

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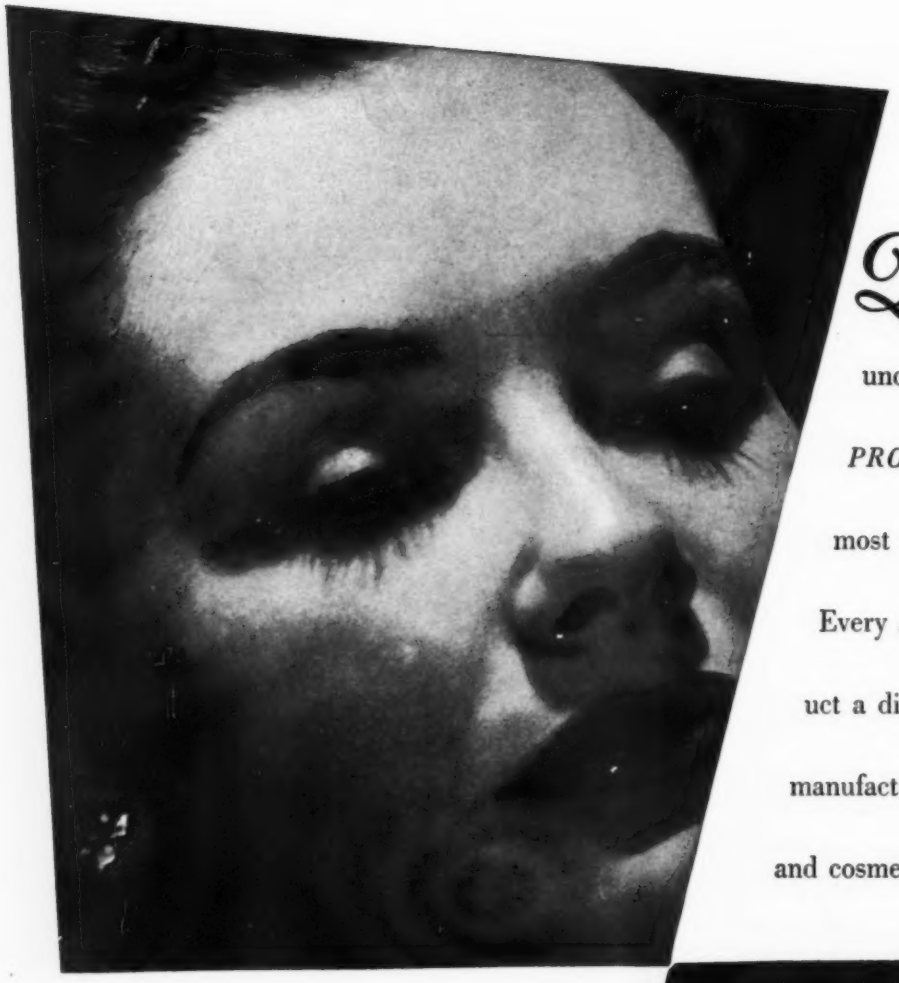

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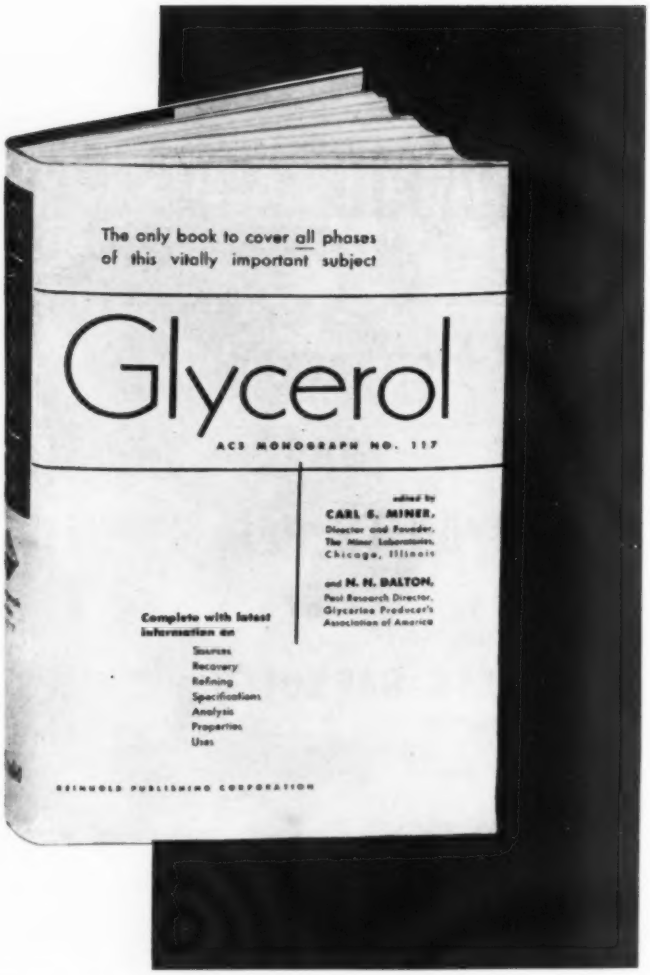

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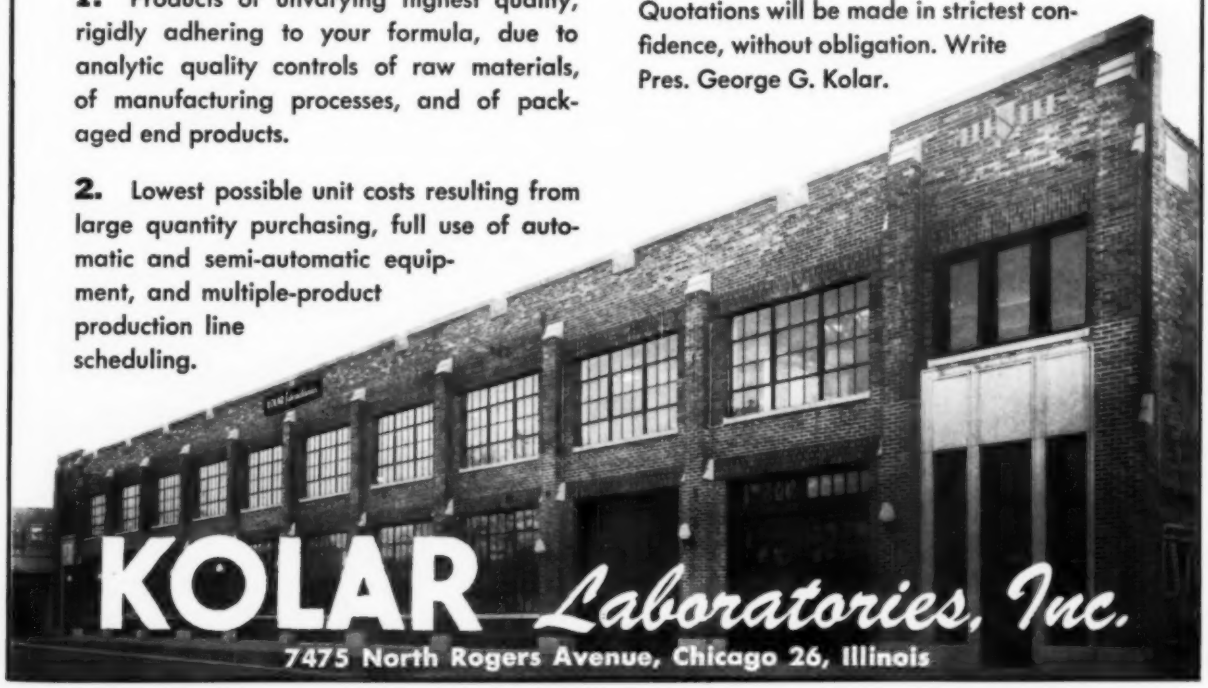

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Protects, identifies, displays, sells, dispenses, this H & D patented Duplex box slices dollars off packaging costs and builds dealer goodwill. Get full measure from your next shipping box—send for booklet "Pack to Attract." Hinde & Dauch, Sandusky, Ohio.

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such faith deserves the best

The fact that only the finest ingredients are used today in the manufacture of pills and tablets is reflected in the faith of the user. Because you, the manufacturer, are ever on the lookout for better, purer ingredients for your products, you will be interested in Sturge Precipitated Calcium Carbonate, U.S.P. Combining such properties as high color, purity, particle fineness, neutrality and freedom from taste, Sturge P.C.C. is a finer pill and tablet coating material. The producer, John & E. Sturge, Ltd., of Birmingham, England, will meet your special density requirements. Write us today on your company letterhead for a sample and further information.

specify

STURGE PRECIPITATED CALCIUM CARBONATE

for **Dentifrice & Cosmetics • Paper-making & Coating • Paints & Distempers • Rubber & Plastics Drugs • Fermentation Processes • Printing Inks**

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FILTROSOL A: = *NOT WATER SOLUBLE FOR CREAMS & OILS*

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For perfuming suntan preparations use our

SUNTAN PERFUME S 5067

Light, bright, and refreshing.

BOUQUET PARIS 4055

Smooth, fine modern floral bouquet.

CYCLAMEN SUPRA KS3196

Delicate, flowery and just sweet enough.

We have a full line of suntan perfumes.

Write us for further information and samples.

schimmel & co., inc.

schimmel

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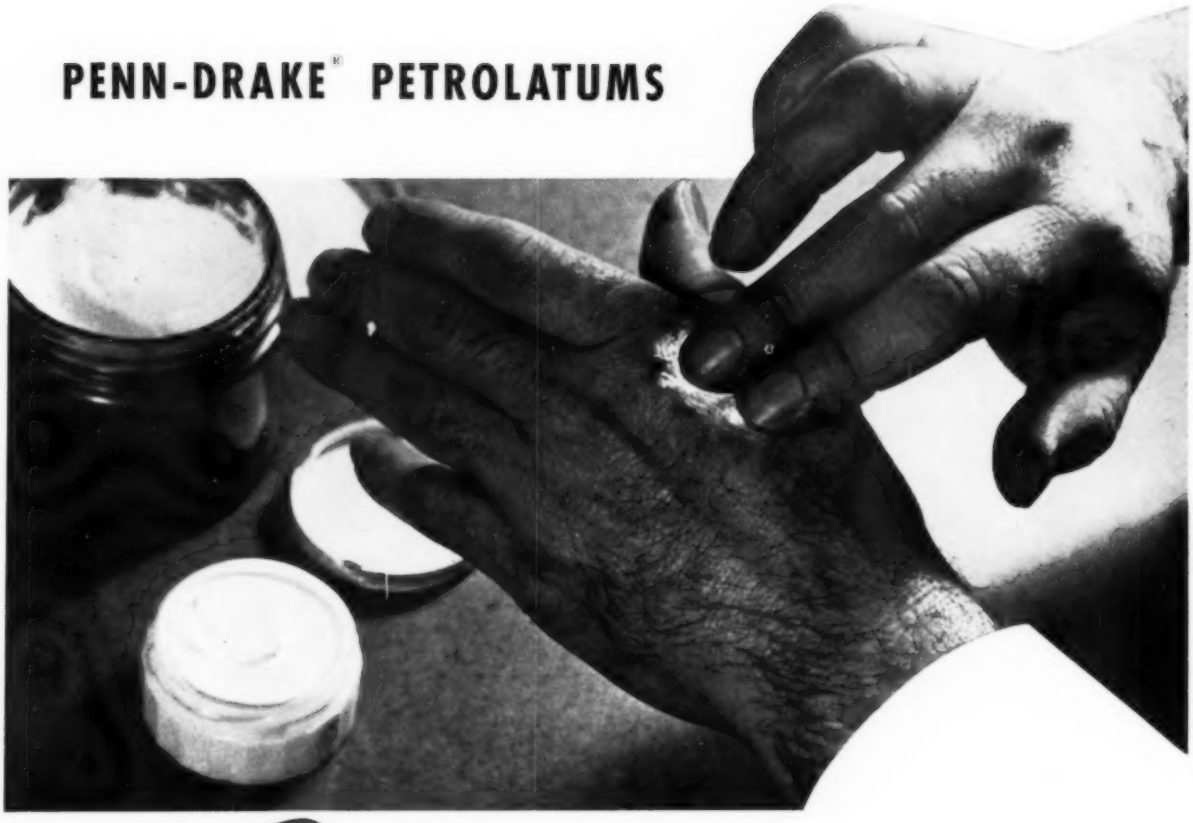
PENN-DRAKE® PETROLATUMS



Proved *Right* By Tests You Can't Define

At Penn-Drake uniformity is a key word. Much of our productive effort is devoted to assuring our customers of perfect uniformity in the petrolatums they order. Matching physical specifications is one thing, a relatively easy thing; for every scientific test is made to insure uniformity of viscosity, melting point, color, penetration and other properties.

Satisfying the touch and the eye of the expert is more difficult, for what he is after—a certain indefinable texture, a certain appearance—cannot be measured in scientific terms. Yet, Penn-Drake has earned a reputation for doing just that: satisfying the touch and eye of the expert in addition to matching physical specifications exactly. Among the most pleasant words we hear are: "Yes, the appearance is exactly right."

Penn-Drake Petrolatums are carefully refined from 100% pure Pennsylvania crude stocks. They are free from odor, taste, rancidity and impurities which may cause deterioration with age. They are stable in every respect and are supplied in all grades and colors from Super White to Dark Green. We will be glad to send you samples of standard grades, and can provide special grades if your product requires them.

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Branches:* Cleveland, Ohio; Edgewater, N. J. *Representatives in Principal Cities

MAKERS OF: White Oils (U.S.P., N.F. and Technical); Petrolatums (all grades and colors); INSECTI-SOL and SUPER-SOL (deodorized insecticide bases); Deodorized and other Naphthas; Petroleum Sulfonates, Waxes; Industrial and Motor Lubricants and Greases; Fuel Oils, and other petroleum products.

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BULK ANTIBIOTICS

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Fragrance Makes the Heart Grow Fonder...

PEOPLE RESPOND to fragrance... whether it's on a pretty girl or on a product. To find the one *right* fragrance for your product dial our nearest office. You and your perfuming problems will be answered by a perfect combination of skill, resources and experience.

NAUGAROMES—For various industrial and commercial uses.

SOAPOLS—For bar, paste and liquid soaps.

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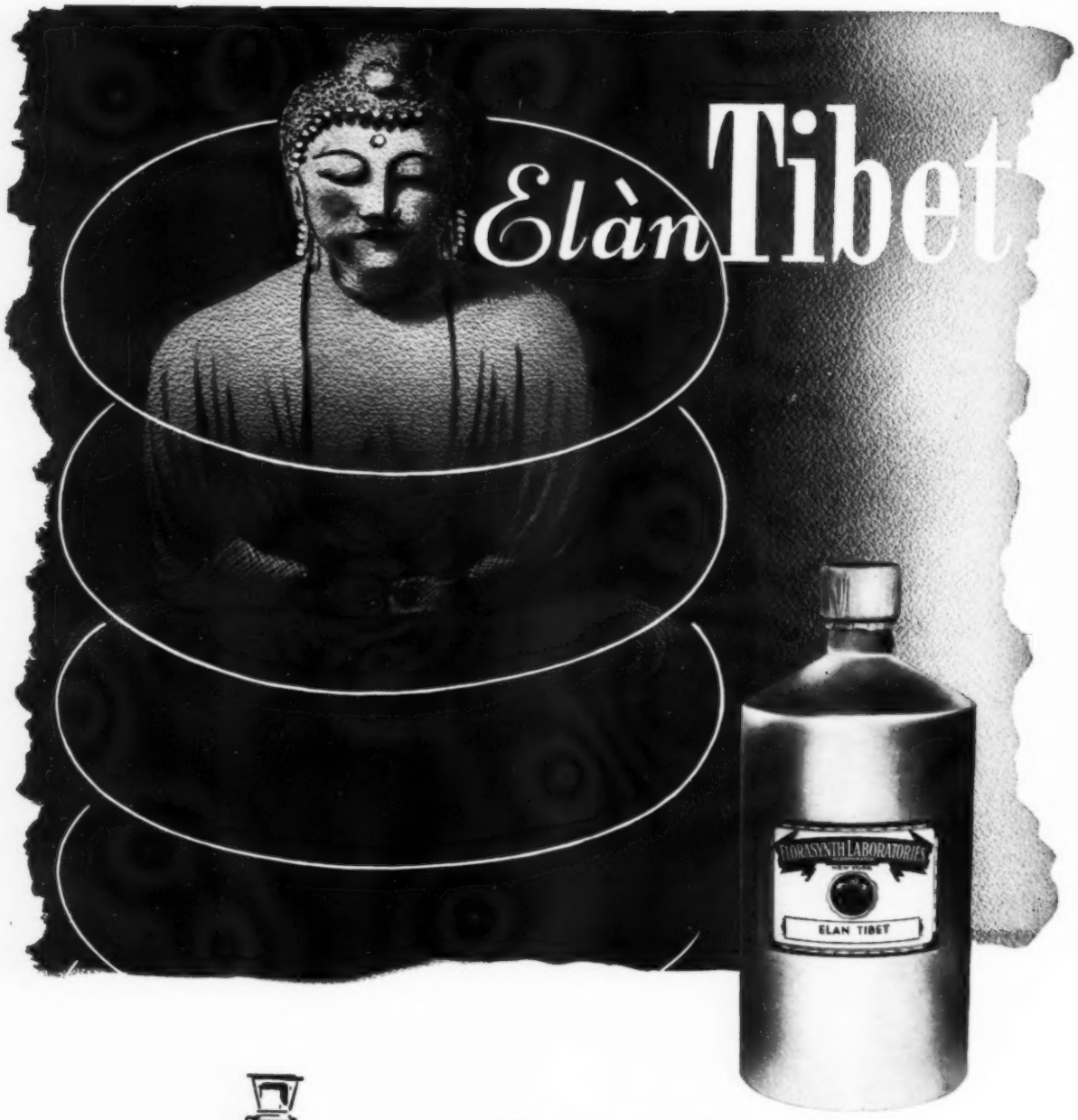

Floral creation of unusual intriguing odor...suggestive of the subtle charm and mystery of the native background with an appealing character that lends delicate bouquet to toilet waters and perfumes.

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How's it fixed for **vitamin E?**

It's an established fact that mammalian newborn are poorly endowed with vitamin E in their body tissues. In human newborn, the plasma tocopherol level is only about 0.4 mg per 100 cc at birth.

The interesting thing is that this low tocopherol level increases to above 1.0 mg within six days in breast-fed infants, while in formula-fed babies the plasma level rises to only 0.75 mg in eight months.

Since little was known about the comparative tocopherol content of human milk and milk products for infant feeding, we decided to look into the question. Here's what we found out: the tocopherol content of early human milk (colostrum) may be as much as 1800 μg per gram of fat; later human milk contains about 80 μg per gram of fat; evaporated and powdered cows' milk contains 23 to 40 μg per gram of fat; proprietary infant foods contain 29 to 171 μg of α-tocopherol per gram of fat.

The care and feeding of infants isn't our business, but it *is* our business to learn everything we can about vitamin E. We do this to be better able to help you with problems concerning the formulation and utilization of vitamin E in your products.

DPi can meet your production requirements for vitamin E with both *d*-alpha-tocopheryl acetate and mixed *d*-tocopherols in a wide range of potencies, including the new DPi Crystallized *d*-alpha-Tocopheryl Acetate, Type 6-100, which has a potency of 1360 International Units per gram. For information or a quotation, write or wire ***Distillation Products Industries,*** Rochester 3, N. Y. Sales offices: New York and Chicago • W. M. Gillies and Company, Los Angeles and San Francisco • Charles Albert Smith Limited, Montreal and Toronto.

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Also . . . vitamin A . . . distilled monoglycerides . . . more than 3500 Eastman Organic Chemicals for science and industry

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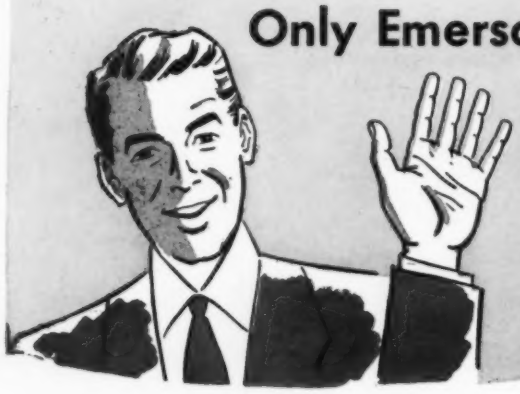

Only Emersol® Stearic Acids Give You

All FIVE Advantages at No Extra Cost!

Get Peak Performance in Your Products with...

Resistance to Rancidity! Give your products maximum protection against oxidation and the development of rancidity by using RANCIDITY-RESISTANT Emersol Stearic Acids. Their unusual stability, as illustrated by both oxygen absorption and peroxide value tests, offers *extra quality*, extra sales appeal for your products.

Color and Heat Stability! If your process involves prolonged heating or exposure to relatively high temperatures, the excellent *color* and *heat stability* of Emersol Stearic Acids can reflect in lighter colored products. Also, color darkening during storage of finished products is minimized. Since color many times is interpreted in terms of purity, this apparent higher quality of your products should mean greater sales... higher profits.

Consistent Composition! Maintain the appearance and performance of your products with the *controlled* composition of Emersol Stearic Acids. This is particularly true if you are using a crystalline grade, in which case a small variation can result in a major change of the melting point, hardness, shrinkage and texture of your product.

Uniformity! Adherence to very narrow specification limits assures the same performance, time after time. This is in terms of production performance, formulation uniformity, and end-product performance.

Highest Quality! No matter what grade you use, Emersol Stearic Acids are the highest quality available. For your high-quality products, get the best...get Emersol 132 Lily Stearic Acid!

These extras at no extra cost means that you get greater value when you buy Emersol Stearic Acids. Check these Stearic Acids in your products. Order a trial plant shipment today!

If you do not have a copy of "Emery's Solid Fatty Acids" or "Rapid Composition Analysis of Commercial Stearic Acids," mail coupon today!

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FROM COAST TO COAST

Famous brands of fine cosmetics

turn to AVON for manufacture and packaging

Your first consideration in the production of your own brand of cosmetics and toiletries is the quality and reliability of the company which manufactures them for you.

Long experience and the strictest quality standards have gained Avon a position of leadership in the making and packaging of many private brands doing business from the Atlantic to the Pacific.

You can broaden your sales scope on the cosmetics you now manufacture or on new products, without added equipment investment, by entrusting the handling of production to the Private Brand Division of Avon Products, Inc. Modern, well-equipped laboratories in Suffern, (N. Y.), Pasadena (Cal.), and Montreal (Canada) are ready to serve you. Avon's specialized skill and over 60 years of experience include every phase of cosmetic and toiletry production.

Join the other famous brands relying on Avon. Call or write for full information.

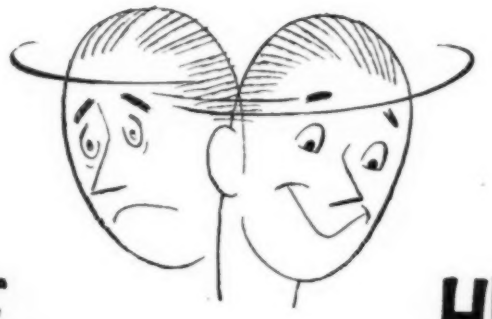
Avon Products INC.

PRIVATE BRAND DIVISION

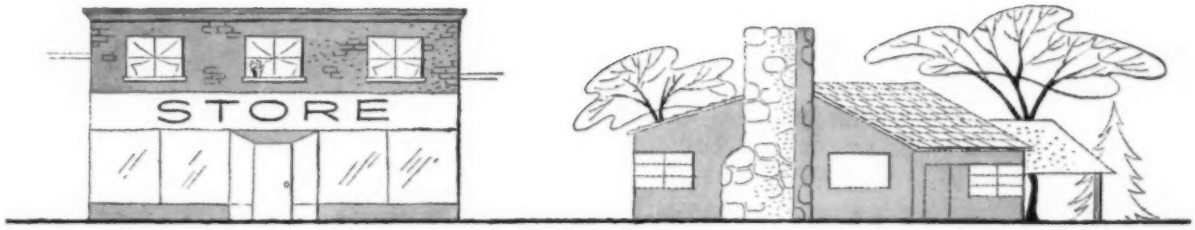
30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

Strategically located laboratories in Suffern, New York · Pasadena, California · Montreal, Canada

Would you rather have your product



HERE OR HERE?



● "Home is where your *profit* is." To shorten the distance between you and the consumer, call on MM&R's experienced Technical Research Department. We will diagnose your product and prescribe a tried-and-true sales-stimulating taste or odor. We've been using this prescription since 1895 to make BEST SELLERS OUT OF SHELF WARMERS.

Contact your MM&R representative—the MAGNA man—or write today for full particulars on the famous MM&R Essential Oils, Perfume Oils, Flavors, Odor Neutralizers, Balsams, Oleoresins and Certified Colors—all premium-quality, all modest in cost.

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Magnus, Mabee & Reynard, inc.

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for a cool, mouth-pleasing taste... switch to sorbitol

Tonics, mouthwashes and other pharmaceutical solutions made with sorbitol leave a clean, cool taste in the mouth. Sorbitol feels pleasantly soothing . . . cool in contrast to other vehicles which often cause a hot, stinging effect.

Sorbitol offers further unique qualities as a vehicle:

ADDS BODY

has a superior emollient action on irritated membranes . . . makes medication more pleasant to take.

MILD, SWEET TASTE

provides added palatability, helps mask medicinal flavors.

RESISTS FERMENTATION

sorbitol has superior resistance to fermentation by many microorganisms.

NON-IRRITATING

proved to be nonirritating to oral membranes, even after surgery . . . by tests and use.

LOW COST:

Best of all, sorbitol costs less . . . has dropped steadily in price since 1947. And it's available for immediate delivery.

Let the Atlas Sales Development Laboratory lend technical assistance on the application of sorbitol in your product. Write or call us today.

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ATLAS POWDER COMPANY

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Produced at our Brooklyn Factory

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NUTMEG	CELERY	PIMENTO
ORRIS LIQUID, Conc.	GERANIOL	OLIBANUM
STYRAX	CITRONELLOL	SANDALWOOD
CASCARILLA		PATCHOULY

also LINALOOL • CITRAL • EUGENOL • RHODINOL

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OLIBANUM	STYRAX
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Essential Oils • Aromatic Chemicals • Perfume Materials • Colors

OFFERING ROSE ABSOLUTE

66 *Years of continuous quality service—*
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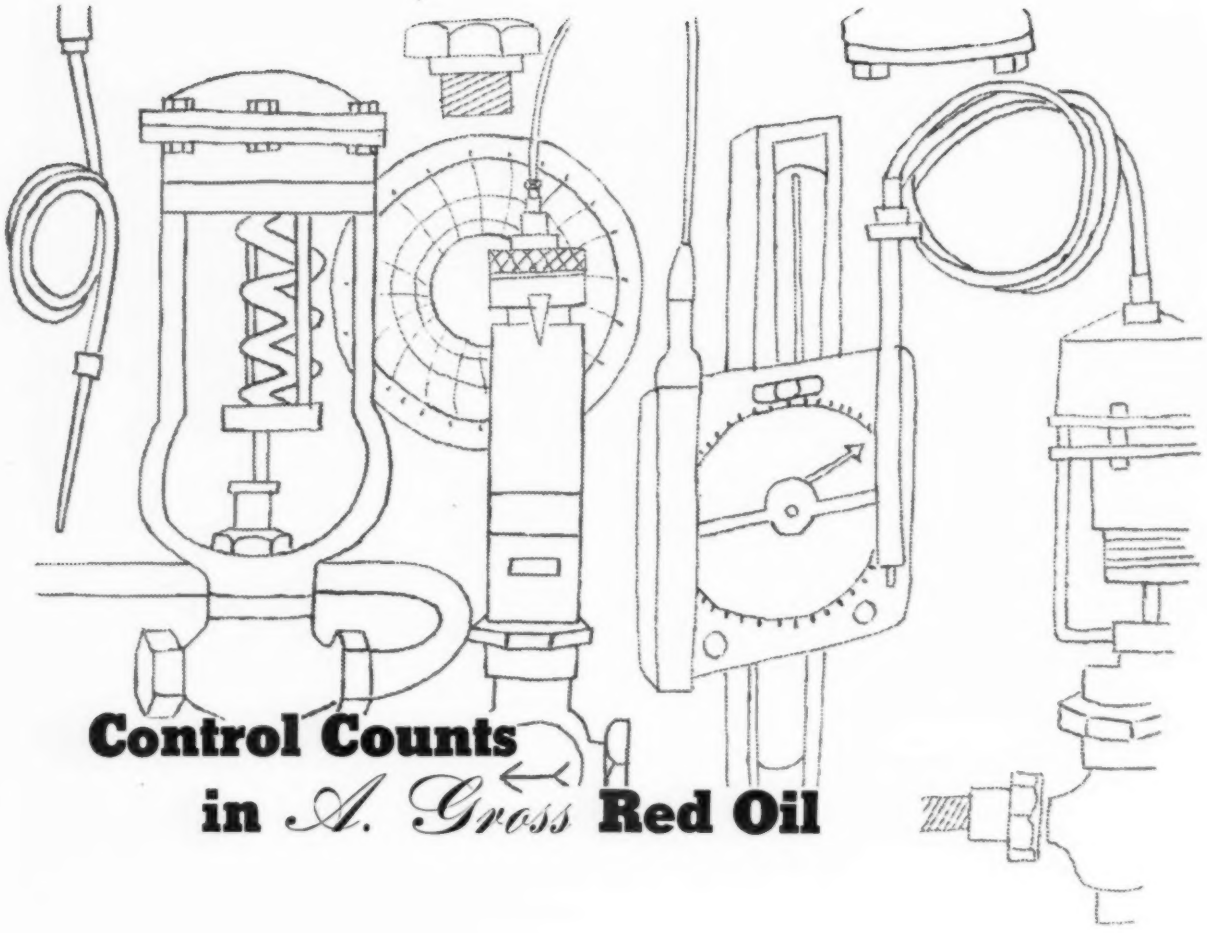
GEORGE LUEDERS & CO.

427 WASHINGTON ST., NEW YORK 13, N. Y.

Chicago • San Francisco Montreal • Philadelphia • Toronto

Established 1885



Control Counts in *A. Gross* Red Oil

A. GROSS & COMPANY recognized long ago that ever increasing purity, quality and uniformity of RED OILS are essential for successful application in the cosmetic, textile, drug and allied industries. Production controls play an important part in tailoring A. GROSS' RED OILS to meet exacting consumer specifications.

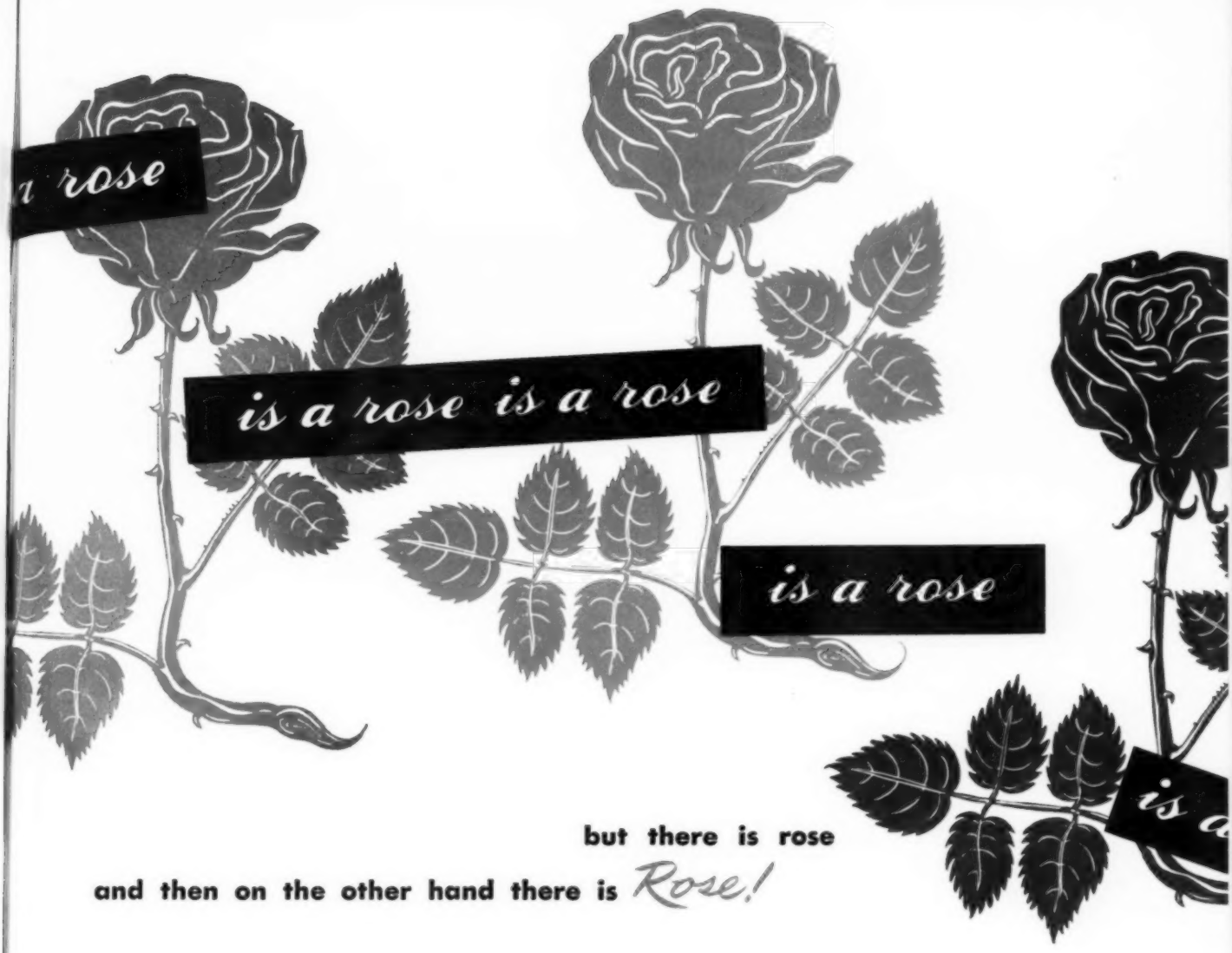
In the continuous processes of splitting, distillation and separation employed in the manufacture of fatty acids, automatic production controls assure you of RED OILS produced to close tolerances, uniformly acceptable in your manufacturing operation.

Send for samples and your copy of the booklet "Fatty Acids In Modern Industry".

A. GROSS & COMPANY

295 MADISON AVENUE, NEW YORK 17, N. Y.

Manufacturers since 1837 • *Factory: Newark, N. J.* • *Distributors in principal cities*



but there is rose

and then on the other hand there is *Rose!*

When your specifications call for Rose, permit Charabot to introduce you to features you never believed existed in this widely used aromatic.

You will meet the ultimate in quality, in value, and that touch of superiority the name Charabot assures.

Charabot has a Rose that will not only meet your requirements, but will open new opportunities for your present or future products.

Ask about our INTEGRALE* ROSE
ABSOLUTE ROSE
HYPERABSOLUE* ROSE
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Also headquarters for
OTTO ROSE BULGARIAN

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THERE'S *Design* IN FRAGRANCE TOO!

It is by brilliant design as well as imaginative artistry that a perfume meets with success in today's market.

The master perfume chemists of van Ameringen-Haebler, Inc. know markets, know perfumes, and are skilled in the creative arts of perfumery. Their guidance can help you design your next success.

MANUFACTURERS AND CREATORS OF THE FINEST PERFUME MATERIALS

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facts you may want to know about—

Magnesium Trisilicate

Foremost American Producer

Mallinckrodt, one of the first American producers of pharmaceutical grades of magnesium trisilicate, began manufacturing this valuable antacid in 1937 and is today among the foremost domestic producers.

Dependably Uniform

Of special value to pharmaceutical manufacturers is the high degree of lot-to-lot uniformity of Mallinckrodt magnesium trisilicate, not only in chemical composition but also in moisture content, particle size distribution, and bulk. Mallinckrodt magnesium trisilicate fully meets U.S.P. requirements.

Forms Available

To fit both tableting and suspension needs Mallinckrodt magnesium trisilicate is supplied in the following forms:

Magnesium Trisilicate U.S.P. Powder
Magnesium Trisilicate U.S.P. Bulky
Magnesium Trisilicate U.S.P. Super Bulky

Important Properties

Important Properties—Typical Values

	Powder	Bulky	Super Bulky
Bulk—Approx. fl. oz./lb. . . .	45	75	130
Approx. Particle Size Distribution*			
less than 5 microns	15%	50%	65%
5-10 microns	10%	30%	15%
10-20 microns	35%	10%	15%
20-40 microns	40%	10%	5%
*Determined by sedimentation methods.			
Adsorptive power—	not less	not less	about 150
mg. methylene blue/gram . . .	than 100	than 200	
Acid consuming capacity—			
cc. N/10 HCl/gram	140-160	140-160	140-160

Companion Products

For alkaline mixtures containing magnesium trisilicate, Mallinckrodt also supplies top-quality companion products such as Magnesium Carbonate U.S.P., Calcium Carbonate U.S.P. and Bismuth Subcarbonate U.S.P.

Samples and prices will be supplied on request. For technical information write for Magnesium Trisilicate Data Unit X-212.

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Mallinckrodt®

MANUFACTURERS OF FINE CHEMICALS FOR THE PHARMACEUTICAL INDUSTRY • SINCE 1867 •

"The boss says if we find a good, new antibiotic, he'll make us vice-presidents."

Watering TV Commercials

Out of Brooklyn, home of the Dodgers, and once famous for its churches, baby carriages, and rubber plants, comes word of a new method of judging the value of television commercials. On page 1 of a recent Sunday edition of the Brooklyn Eagle, appeared an article "Commercials Come, Folks Take Flight—TV Blurbs Are So Much Water Down the Drain, Survey Finds." This article, by Ken Johnston, reports on sharp drops in the water pressure in Brooklyn on the half-hours indicating that people do not rush to the kitchen for a snack or drink when the commercials come on between programs, but actually "make a concerted rush for the bathrooms." Stating that the water department has charts and graphs from spotting stations all over Brooklyn to prove this, and that these mechanical "eyes" are watching the people of Brooklyn constantly and report just what they do and when they do it, Mr. Johnston says:

"This may embarrass you if you're one of those the water department is talking about, but it will probably embarrass a lot of television big shots even more."

It seems the water department records are gathered by about 40 meters, strategically located throughout Brooklyn, which keep automatic watch on water pressure. "The charts show sharp drops in water pressure at regular half-hour intervals, every evening of the week. During the rest of each day, the charts show long, fairly-smooth curves as pressure rises to a sustained high in the early morning hours, drops to a two-hour low as folks perform their ablutions from 7 a.m. to 9, and maintains a middle-level for the rest of the morning and afternoon," according to Mr. Johnston.

"The sudden, sharp drops come only in the evening, when hundreds of thousands of Brooklynites are watching television. They come regularly on the hour and half-hour—just when the commercials, most of them, come on. The drop lasts for three or four minutes, at most, just about long enough to cover one or two solid commercials or three or four of the 'quickies' the channels love to flash on in quick succession."

The sudden, sharp drops in pressure could not be due to "a mere glass of water, even though taken in thousands of homes simultaneously," say water experts in Brooklyn, who add, "Its got to be very large quantities of water to affect our mains that way; there is a definite, sudden usage of water every half-hour every evening." Then it was explained that widespread installation of flushometers (tankless type fixtures) probably helped account for the sharp drops as they use "terrific pressure" quickly and briefly.

Pressure drops vary in different sections of Brooklyn, but no one knows why. In Flatbush, the average drop is between three and four pounds, while in Bay Ridge it is about seven pounds. Apparently here is material for further study so as to arrive at more facts concerning television commercials. Says Mr. Johnston: "Biggest drop noted was a 10-pounder in Bay Ridge on a recent Monday night at 9. Possibly folks were getting ready to settle down to an uninterrupted half hour with 'I Love Lucy', reputedly most popular of all television shows."

"Flatbush is apparently a news-conscious section," says Mr. Johnston. "In most sections of the borough the pressure drops occur every half hour from 7:30 p.m. or 8 through 11. But in Flatbush there is an extra little jiggle on the charts at 11:15, indicating fairly large water usage after the 15-minute news programs that come on many TV and radio stations at 11."

Other facts and deductions are that in the East New York section of Brooklyn folks go to bed earlier than in other sections as the last pressure drop (they average about four pounds there) regularly comes at 10 p.m. In the Williamsburg section the pressure drops do not come clearly and regularly until 10, 10:30, and 11. Another meter measuring parts of the Bushwick and Bedford-Stuyvesant sections, show the dips come mostly early in the evening, from 7 to 9. "Perhaps they're restless for a while, then settle down to solid enjoyment of their TV fare. What they do when the later commercials come on is anybody's guess."

Diabetics and Insulin

After thirty years Insulin statistics indicate that the percentage of those needing it, but not getting it, may be as high as 50 per cent, according to Tile and Till. Also, sales of NPH Insulin now represent nearly 30 per

cent of all Insulin used; that the rate of change from Protamine Zinc Insulin to NPH Insulin in one year is as high as 20 per cent among diabetic patients; that 85 per cent of patients can now be controlled by NPH Insulin; that, according to a survey made in Oxford, Mass., there may be twice as many diabetics in your community as are known; and that the expenditure by each diabetic for his needs is estimated at $144 per year.

Avon Reaches $40 Million

Avon Products, Inc. again registered an increase in sales which totaled $40,797,413 for the year 1952, a gain of 13 per cent over the 1951 total of $35,826,501. This company, reporting for many years the highest sales volume of any company solely devoted to the sale of cosmetics, and selling the products which it merchandises through agents which call on consumers at their homes, attributes its gain in sales during 1952 to "a stronger and more capable field organization; effective sales promotion supported by national advertising; the offering of merchandise with increasing appeal from the viewpoint of attractiveness as well as price; and the growing appreciation on the part of the public of the ease and convenience of our method of merchandising which permits leisurely selection of cosmetics and toiletries in the comfort of the customer's home."

"Several new cosmetic items, including a line for children, were added to the Avon line in 1952," says the report," and these met with enthusiastic consumer acceptance and contributed to our sales increase. More than fifteen other items are scheduled for introduction in 1953 and these, coupled with the effective promotional plans that have been developed, give us confidence in viewing the outlook for sales during 1953. This feeling has been justified thus far by an increase in sales enjoyed in the first two months of the year as compared with the corresponding period of the peak year of 1952."

Van Zandt Export Bill Again

The Van Zandt Bill having to do with the exportation of drug and cosmetic products from this country, has been reintroduced in the present session of Congress by Representative James E. Van Zandt, Republican, Pennsylvania. The bill would prohibit the exportation of foods, drugs, and cosmetics which do not meet the requirements for domestic use, unless the country to which they are going has contrary rules or standards. The measure was first introduced by its present sponsor in a slightly different form during the first session of the 81st Congress, but after passing the House, it was defeated in the Senate. The wording of the new bill conforms to changes made in committee at that time. The bill has again been referred to the Committee on Interstate and Foreign Commerce of the House.

In related hearings about a month ago, Committee Chairman Charles A. Wolverton, Republican of New Jersey, expressed his own desire to revive the proposal, stating that he was concerned that foods and drugs not fit for U.S. consumption can be shipped out of the country. He then asked FDA Commissioner Crawford to draw a bill for his consideration.

Dr. Kalish and Flavors

About the middle of last month a release, of much more than passing interest to us, arrived from Schenley Laboratories. The reason for our special interest in this release was the fact that it had to do with the work being done at Schenley by our old friend and associate, Dr. Joseph Kalish. For quite a number of years Joe Kalish was our technical editor and a very highly appreciated member of our organization. He left us for the very understandable reason that he thought his talents could be put to better use in a different field of endeavor.

For some years now, Joe has been located in Lawrenceburg, Indiana, the home of Schenley Laboratories. So we do not see him very often, and he is not given to writing. However, last month we did get a post card from him in which his message was strictly limited to calling our attention to a typographical error in the spelling of the name of another pharmaceutical manufacturer. But on his few trips East Joe does either call us up or get in to see us, and we always enjoy these sessions more than he knows.

But to get back to the release from Schenley concerning Dr. Kalish, which has to do with his work in making pharmaceutical preparations pleasant tasting. We quote from the release:

"One person who works unceasingly to spare the tastebuds of others is Dr. Joseph Kalish, one of the top chemists in the research department . . . He can readily identify hundreds of separate flavors and odors in a matter of seconds, but the job of replacing the unpleasant with the pleasant sometimes takes weeks or months of research.

"Not long ago he was confronted with a new cough compound with such ingredients as calcium cresol sulfonate, ephedrine sulfate and chloroform. The color and taste were something less than tempting.

"After weeks of experimenting with coloring and flavoring agents, Dr. Kalish recalled a formula he had once devised but never used. It gave the cough mixture a pleasant aromatic flavor, somewhat like that of anisette, and a bright emerald color. The preparation was introduced recently to the ethical drug market under the name Crephex.

"The chief drawback to the doctor's work, of course, is that to improve products' consumer acceptance, he has to taste them himself. Which is why his is most decidedly not a painless profession."

Poor Joe, how he must suffer! But he brought it on himself by leaving us and getting that Ph.D.

Former Representative McGuire Joins N.A.R.D.

John A. McGuire, former Congressman from Connecticut who sponsored the McGuire Act which legalized fair trade after the Schwegmann decision, has been named a special representative in Washington for the National Association of Retail Druggists, according to Dr. John W. Dargavel, executive secretary of the

N.A.R.D. Mr. McGuire will serve in collaboration with George H. Frates, long-time Washington representative for the N.A.R.D.

"There are many legislative complications in Washington," said Dr. Dargavel, "They require constant attention to safeguard the interests of the independent druggists. Hundreds of proposed measures must be studied to make certain that none includes provisions of injury to the system of small business. Then there are government regulations to scrutinize for intolerable restrictions and arbitrary decisions contrary to the welfare of pharmacy or individual enterprise. Mr. McGuire will provide effective assistance in the watchtower of the N.A.R.D. in Washington. He possesses the necessary experience and the essential contacts."

We Apologize, Dr. Brodie

We wish to apologize to Dr. Bernard B. Brodie, Chief, Laboratory of Chemical Pathology, National Heart Institute, National Institutes of Health, Public Health Service, Federal Security Agency, for the form in which we published his paper, Drug Metabolism, in our February issue. Because of the excellence of the material which Dr. Brodie presented, we were particularly anxious to publish his paper which was presented before the Mid-Winter meeting of the American Pharmaceutical Manufacturers Association last December. Unfortunately the stenographic paper which we received is described by Dr. Brodie as a "garbled version" of what he really said. The result has been that "considerable unfavorable comment" has reached Dr. Brodie and, naturally, he has been very embarrassed by it. For this we are sincerely sorry.

Chloromycetin Suits Against P.D.

Parents of four children filed damage suits in Federal Court in Los Angeles last month against Parke, Davis & Co. Claiming that the use of Chloromycetin caused the death of the children through production of aplastic anemia, the plaintiffs ask damages totaling $332,063.

New Drugs and Gold and Uranium

Some idea of the manner in which the control of disease can change conditions throughout the entire world was recently brought to light by a statement that penicillin and sulfa drugs would make possible the operation of mines in South Africa which were expected greatly to increase uranium production and to raise South Africa's gold production by about 50 per cent. Henry Oppenheimer, head of a group controlling the largest gold and diamonds interests in the world explained that the connection between these drugs and the mines is pneumonia.

It seems that the gold mines from which some of the uranium is coming are situated in areas 5,000 to 6,000 feet high. The combination of what for the tropical native is extreme cold and high altitude has made pneumonia a major menace. Temperatures in the deep mines are extremely high, and the native, with no resistance to cold, receives a severe shock when he returns to the surface.

Cosmetic Chemists Program

The Society of Cosmetic Chemists has announced the program for its Spring Meeting to be held May 15 at the Hotel Biltmore, New York. Papers scheduled are: Application of the Biological Sciences to Cosmetics, Dr. L. W. Hazelton, Hazelton Laboratories; Experimental Analysis of the Psychological Properties of Cosmetics, Dr. Dean Foster, United Testing Company; Baldness, Dr. Irving L. Milberg, Skin and Cancer Unit, New York University-Bellevue Medical Center; Amine Soap Hair Shampoos, Helen E. Wassell, Mellon Institute; Some Infrared Applications to the Analysis of Cosmetics and Essential Oils, Harry Hausdorff, Perkin Elmer Company; Need for Scientific Data in a Cosmetic Patent Program, Thomas Cifelli, Jr.; Toxicity Studies on Actamer, Dr. H. A. Shelanski and Dr. M. V. Shelanski, Industrial Toxicology Laboratories.

Honorary Membership to Mayham

S. L. Mayham, Executive Vice-President of the Toilet Goods Association, will be awarded Honorary Membership in the Society of Cosmetic Chemists, according to Dr. Paul G. I. Lauffer, president of the Society. Dr. Lauffer states that Mr. Mayham is to be so honored because during his long association with the cosmetic industry, he has made major contributions towards establishing the prestige now enjoyed by the industry and the chemists in the industry. The award will be made at luncheon at the Spring Meeting of the Society to be held May 15, at the Hotel Biltmore, New York.

The British Health Plan

Saying that "a nationalized and nation-wide health service available to everyone has become a well established fact of British life," Clifton Daniel, under a London dateline of March 22, wrote in the New York Times of March 23 on the British health plan after five years of experience.

Facts and conclusions given by Mr. Daniel include the following:

It is not yet what its sponsors hoped for, and the present Minister of Health says this will not be for a generation to come. But it works well enough to justify itself fully in the minds of the people and a majority of the medical profession.

Even the Fellowship for Freedom in Medicine, which was formed to resist encroachments of state socialism on the profession's independence, "feels that the national health service in some form will always continue."

From the beginning the service absorbed just over three per cent of the nation's gross product, which, while less than that spent in the U. S., was all the British economy could afford. [About four per cent of U. S. national income is spent on medical services, it is estimated here.]

A limit of roughly £400,000,000 annually, placed on the service in 1950 by Sir Stafford Cripps, and representing £8 for every person in Britain, has been maintained.

This limit caused a change which required patients to pay a part of the cost of prescriptions, dental service, surgical appliances, false teeth, wigs and spectacles,

and meant that patients now contribute 5.8 per cent of the gross outlay of the service.

Out of nearly 20,000 practitioners, only about 500 have remained outside the service. Nearly all of the 7,000 specialists are engaged part time or full time in public work. For most doctors there is no professional or financial alternative.

While the numbers of doctors and dentists have not risen appreciably, a staff has been provided for 30,500 additional hospital beds since 1948. The nursing staff has increased by 25,000 whole time and 10,000 part time employees, and 51,000 nurses—more than ever—are now in training.

The nation's health gets better all the time. Vital statistics prove it. But no one can say how much of this is due to the health service. "Penicillin and other new drugs have accounted for more than the health service," was a comment.

About 47,000,000 persons, 97 per cent of the population, are registered with the service.

From 1948 to 1951, non-medical personnel increased by 30,616 reaching a total of 209,179. More than one-fifth of the increase was administrative and clerical.

T.G.A. Scientific Program

The program of the meeting of the Scientific Section of the Toilet Goods Association to be held at the Waldorf-Astoria Hotel, New York, May 14, has been announced. Papers to be presented are: Action of Detergent Hexachlorophene Mixtures on the Bacterial Flora of the Cutaneous Surface, Irving H. Blank, Ph.D., Research Associate in Dermatology, Harvard Medical School, Massachusetts General Hospital; Difficulties Encountered in the Use of Polyethylene as a Packaging Material, C. F. Wight, van Ameringen-Haebler, Inc.; Repeated Insult Patch Test Method, Herman A. Shelanski, Industrial Toxicology Laboratories, Philadelphia; Musk Compounds—a chemical Survey, Sydney M. Spatz, Ph.D. and Ernest H. Polak, Polak's Fruital Works, Middletown, N. Y. and Amersfoort, Holland, respectively; Stress and the Protective Mechanism of the Surface of the Skin, by Eugene Traugott Bernstein, M.D. and Gabriel Barnett, M.S., respectively Chief, Department of Dermatology, Beth David Hospital, and Cosmetic Research Chemist, Warner-Hudnut, Inc.; Humectancy and Viscosity Effects of Glycerine in Cosmetics, J. B. Segur and C. S. Miner, Jr., Miner Laboratories; Methods of Determining Skin Emollients, E. T. Hinkel, Jr., M. L. Tainter and F. C. Nachod, Sterling-Winthrop Research Institute; Developments and Problems with Cosmetic Aerosols, E. Young, et al, E. I. du Pont de Nemours & Co.; Shampoo Formulation, H. W. Zussman, Alrose Chemical Co.

Kinsman Honored

Arthur J. Kinsman, president of Purepac Corporation, was a recipient of a Free Enterprise Award last month. Mr. Kinsman was in good company, since the others also receiving awards were President Eisenhower, Paul G. Hoffman, Harry Brandt (movie theaters), Earl William Muntz (TV sets), Arthur Murray (dancing, and Collie W. Weber (Weber-Millican Co.). Winners of the awards were selected by John F. Budd, chairman of the Free Enterprise Awards Association's Business Editors Award Committee, after polling 674 national daily business page and trade press editors through Certified Reports, Inc.

Lewis Gives Tintair Picture

Last month, Thomas J. Lewis, president of Bymart-Tintair, Inc., sent to retail outlets throughout the country a letter revealing heretofore confidential sales and financial figures of that company. Stating that some of the rumors circulated concerning the company were true, but most of them false, Mr. Lewis says they did substantial damage to the business.

"At the end of last June," he stated, "the company owed the banks $105,000. It had less than $13,000 in cash. The deficit amounted to more than a third of a million . . . As of December 31, 1952, the company did not owe the banks a penny. The deficit had been wiped out and the company was in the black.

"As of today, the company has more than $235,000 cash in the bank, and retail sales are at the rate of about $5,000,000 per year. In the first quarter of this fiscal year, ending February 28, 1953, the net income after interest, taxes, and all charges was $189,514.91."

U.S.P. Constitutionality Upheld

The constitutionality of the U. S. Pharmacopoeia as a book of legally enforceable standards was upheld by the Supreme Court of Wisconsin. In the first decision directly bearing on this point, the Court said:

"The U. S. Pharmacopoeial convention (the corporate title of the body owning and issuing the USP) is as broadly and truly representative of the medical and pharmaceutical professions as the institutions relied on in enactments that application for medical or dental licenses must meet current standards of practice set by medical or dental schools or associations.

"The cases which have reached final determination and the texts upon the subject hold to the effect that the U. S. Pharmacopoeia Convention is an institution now firmly fixed in the circumstances of medical and pharmaceutical planning for the protection of the public; and it appears that its publications, the U. S. Pharmacopoeia and its supplements, reflected the integrity and high standards of the Convention.

"In the present case we have a complete act of the legislature which was not, at the time of its passage, dependent on the act of any other person or organization, but provided for the inclusion of articles discovered in the future with the advancement of science. It should not be held void because it provides for the inclusion of new discoveries, if approved by persons most eminent in the profession who are most interested in maintaining the highest standards known or to be known to science.

"This is not a case of delegation of legislative powers. The publications referred to in the statute [USP, NF, HP] are not published in response to any delegation of power, legislative or otherwise, by the statute. The compendia are published independently of the statute and not in response to it. These books were published before the enactment of our statute and for an entirely different purpose.

"Because of the eminence of the compilers, these books have been recognized as standards by the Congress of

the United States and by the legislatures of all 48 states, at least, as far as the U. S. Pharmacopoeia is concerned." This ruling was included in the decision in the case Wisconsin v. Fayz Wakeen, a retail grocer, who also contended in his defense that aspirin, milk of magnesia, and camphorated oil were proprietary medicines and drugs, the sale of which can be restricted to drug stores. The court ruled that these products are not secret products, but they are made by a large number of manufacturers according to standards set forth in the USP or NF. Therefore, the court ruled, their sale can be restricted to drug stores under the law.

Pfizer Sales

In the Pfizer annual statement it is claimed that volume of goods sold in 1952 was up 20 per cent over 1951, but the volume in dollars was up only seven per cent. The statement is also made that the difference is due to 40 per cent price drops in the prices of penicillin and streptomycin. Since sales were $107 million, and would have been $120 million if these price drops had not occurred, the difference, or $13 million, represents two-thirds of the value of these drugs sold at the lower prices. Therefore, the value of these drugs sold at these lower prices was one and one-half times $13 million, or $19.5 million. But the price cuts did not really start until some time in April 1952, and therefore an additional amount of these drugs amounting to approximately one-third of the amount sold in the last three quarters, was sold at the higher prices which prevailed at that time. This means that approximately an additional $10.8 million must be added to the $19.5 million giving a figure of about $30 million for Pfizer's sales of penicillin and streptomycin in 1952.

Sales of the Antibiotic Division of Pfizer are given at 35 per cent of the total sales, or $37 million for domestic sales of Pfizer-labeled pharmaceutical products to drug wholesalers. Since we learned from another source that foreign sales for 1952 totaled $29 million, this means that the other two divisions—the Chemical Division which sells bulk chemicals and antibiotics in this country, and the Agricultural Division which was just formed during 1952—together had a sales volume of about $41 million.

F.T.C. and Smear-Proof Lipsticks

The Trade Practice Division of the Federal Trade Commission recently completed a survey of the advertising promotional literature and labels of various manufacturers and distributors of lipsticks described as "indelible," "Smear-proof," "non-smear," etc. The study was undertaken with a view to determining whether or not the statements made violated Rule 2 of the Cosmetic Trade Practice Rules. In substance, the following gives the conclusions reached by the FTC Division and sent to those marketing lipsticks.

"Consideration was given in this survey to data obtained from various manufacturers in support of their respective claims, opinions of technical experts, tests conducted by the Bureau of Standards and other tests as to consumer reaction. From such material it is said that it appeared to the Division that there are limits to which advertising claims for those products as now found on the market may go and not be considered false and misleading.

"As to the terms 'smear-proof', 'non-smear', and similar expressions, the study raised the question as to the propriety of their use in describing lipstick. None of the lipsticks examined were considered to be strictly 'smear-proof' or 'non-smear' in the sense that they will not smear at all. While such products may be less susceptible to smearing than those for which such claims are not made, the information received was said to disclose that the so-called 'non-smear' type of lipstick left enough traces of smearing on objects touching the lips to justify a conclusion that the terms in question are misleading, implying as they do, absolute protection against smearing.

"As to the term 'indelible' it was questioned whether within its generally accepted meaning the term is properly used in describing lipstick. Even if the term 'indelible' as applied to a particular lipstick, should be taken to mean that one application thereof will stay on the lips in substantially the same condition as when first applied for the wearer's usual day, i.e., from morning' until bedtime at night, the opinion of the Division was said to be that these products fail to meet such a test, although there was support for the belief that lipsticks described as 'indelible' may be generally more lasting than ordinary lipsticks."

The Commission has asked the lipstick manufacturers and distributors involved to send to the Commission a statement of compliance with the views expressed by the Commission regarding claims for lipsticks.

T.G.A. Meeting

The theme, Let's Face the Facts!, has been selected for the meeting of the Toilet Goods Association to be held at the Waldorf-Astoria Hotel, New York, May 12, 13, 14. During the morning of the first day, T.G.A. President Davis Factor will render his report, as will Treasurer Philip C. Smith. Also at this session, Howard A. Trumbull, president of National Family Opinion, Inc., Toledo, will report on a new consumer survey. This session will close with the election of officers for the next year.

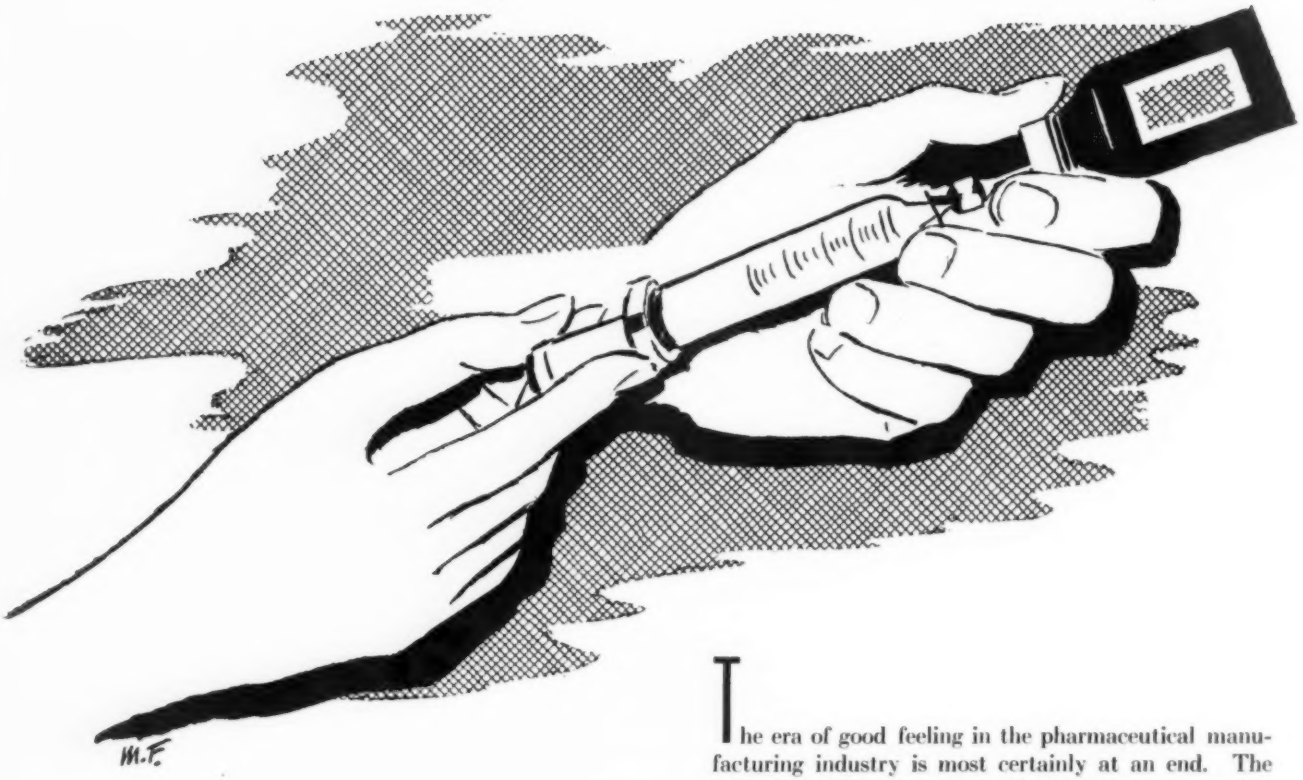
At the luncheon on the first day, H. L. Brooks, chairman of Charles S. Welch Packaging Awards Committee will present to the winners the plaques for the best packages of 1952.

The afternoon session will be given over to facing the facts on Advertising and Promotion; and on Where Toiletries are Bought.

The second morning session will be given over to facing the facts on Consumers' Buying Trends, and on Product Research.

During the luncheon on the second day, Paul H. Douglas, chairman of the Golf Tournament Committee, will present the prizes won at the tournament to be held at Winged Foot Golf Club, Mamaroneck, N. Y., May 11. Three memorial golf awards will be presented—the Cecil Smith, Bernard M. Douglas, and B. E. Levy Awards.

The afternoon session on the second day will be a closed one for manufacturers only. The third day will be given over to the program of the Scientific Section. At the luncheon on the third day, the CIBS award to the author of the best paper given before T.G.A. Scientific Section during 1952 will be presented.



Pharmaceutical Competition

The era of good feeling in the pharmaceutical manufacturing industry is most certainly at an end. The lush days which have existed since the war are fast disappearing. Competition has become sharp, and it promises to become sharper. Where it will lead is difficult to predict, but at the moment it looks as if it would be felt throughout the entire industry with everyone eventually feeling its effects.

During 1952 the industry went through the experience of penicillin—which is probably the industry's leading item from point of extent of use and value of sales—suffering a drastic cut in price of 40 per cent. Its companion antibiotic, streptomycin, suffered a similar fate. These price cuts caused one company to undergo a loss in dollar sales volume of $13 million dollars, and a similar loss in its profit before taxes. These price cuts drove several other manufacturers out of the business since they could no longer compete with any profit at all at the new price levels. Even one of the large manufacturers was obliged to declare its large original installations for manufacture of these products obsolete. This manufacturer can now ship profitably only from later more efficient installations at another plant.

The financial reports of practically all manufacturers of these two drugs call attention to the fact that this situation alone is responsible for the poorer showings made by these companies in 1952. This indicates clearly that the industry cannot stand many such shocks without being in a greatly changed position. However, it is probable that the situation existing in these two drugs is rather unique and cannot be applied generally to the products of the industry.

The situation of these two antibiotics is that many

firms who should never have entered the field came into it because of the fact that the Government needed supplies very rapidly during the war. And, as is well known, the Government financed a very large part of the plants making these products. When the Government wished to withdraw from the program at the end of the war, the companies operating Government-financed plants hated to lose this large and lucrative business. So they bought the plants from the Government and continued to make these products. For a time the products were in oversupply, but again demand picked up and more productive capacity was demanded by the Government because of the threat of a third World War. But eventually the plants which were being built in foreign countries started to plague the manufacturers. Not only did the manufacturers lose a very large part of the foreign markets, but foreign countries began to offer penicillin in this country below our domestic prices. Then came the shakedown.

Because of the fact that manufacturers of these drugs were not only pharmaceutical manufacturers, but also chemical manufacturers, alcohol manufacturers, liquor manufacturers, proprietary drug manufacturers, and even other types of manufacturers, a meeting of minds on how the business should be conducted was practically impossible of attainment. Pharmaceutical manufacturers had their own ideas; proprietary manufacturers, liquor manufacturers, and others apparently were using the situation as an opportunity to get a foothold in the pharmaceutical industry. Chemical and other manufacturers, selling their output mainly in bulk to pharmaceutical manufacturers who did not make the products, also engaged medical directors and tried to establish direct markets for the products through various avenues of distribution.

How many of the present plants of any of these various types of manufacturers making these drugs can be operated at a profit, or even without losses, is something that is unknown. But doubtless many companies, even though operating at no profit or at a loss in these two drugs, will hang on in the hope that when enough companies quit and production and consumption becomes more evenly balanced, prices will move up. At least one manufacturer who established himself in the pharmaceutical industry via the manufacture of these drugs, has quit their manufacture and is buying from others. Then again, as far as the large pharmaceutical manufacturers who built their own penicillin and streptomycin plants are concerned, it must be realized that while they might lose money if they were obliged to sell their output at bulk prices in competition with other makers, they can still realize a profit by selling the finished product under their own labels. Perhaps their plants might prove a little large for this purpose, but this is better than quitting the market altogether.

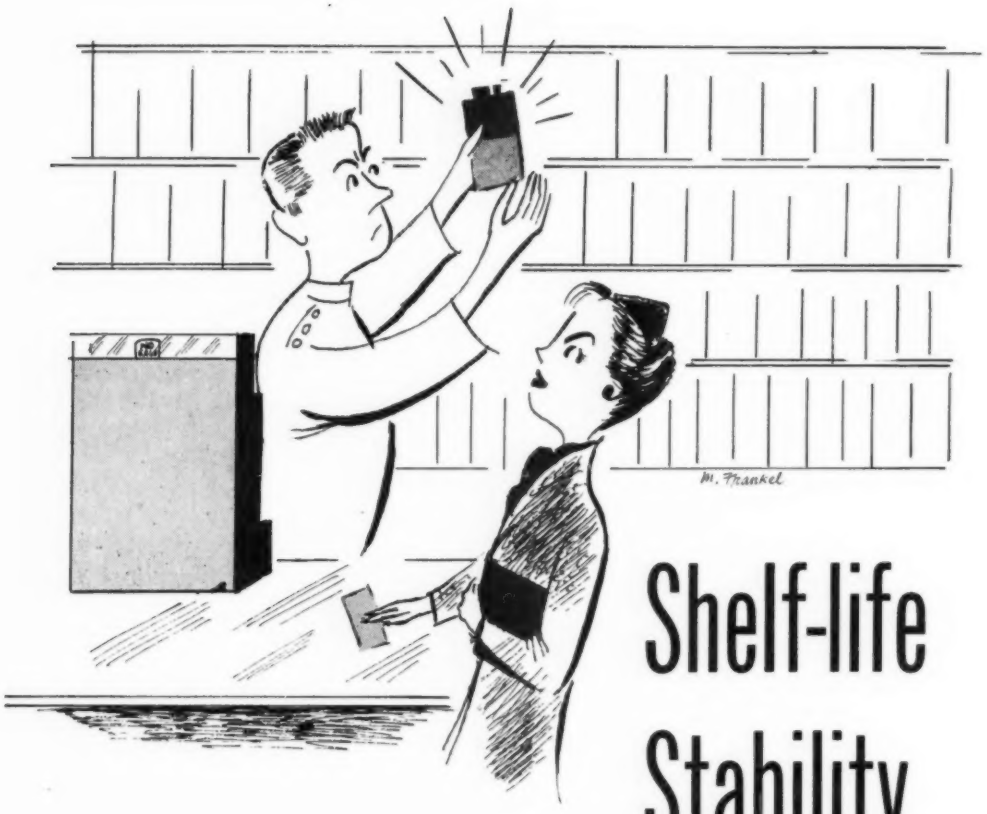
Because of the somewhat limited use of streptomycin as to indications, and because of the apparent growing resistance of bacteria to penicillin and the rather large amount of sensitivity to penicillin, it would appear that these drugs might be close to the peak of their use and that from now on there might be a slow decline in their application. The newer antibiotics, practically all of which are restricted to one or a few houses as in the case of erythromycin, are apparently moving in on this field to an increasing extent. The latest ones to be marketed, erythromycin and Magnamycin are mainly heralded as being of use in cases which do not respond to these other antibiotics. However, it was pointed out some time ago that if a patient with staphylcoccus infection which is resistant to penicillin is treated with Terramycin or aureomycin, the patient uses his resistance to penicillin. So in the future there may be some rotation of the various products employed. Of course this will mean carefully-kept and carefully-consulted records on each patient.

Even though the situation in the marketing of these two drugs is unique because of the underlying conditions in their development, they are not the only prominent drugs to be causing manufacturers headaches. But the difficulties in many other drugs are occurring in the pharmaceutical branch of the industry. We find free goods entering the pharmaceutical business. One seller of cortisone is reported to be giving retail druggists 20 per cent free goods. This factor would naturally cause the druggist to prefer to dispense this particular brand of cortisone on the prescriptions which he fills. And since this product is restricted to prescription sale, this would just about be the final step in price cutting.

Because the great bulk of profitable business in this industry has for some time now been in pharmaceutical preparations which are promoted through the physician and very largely restricted to prescription, new merchandising tricks can be expected to make their appearance. And because of the fact that many pharmaceutical manufacturers have grown considerably since the pharmaceutical lush days following the war, there are many more manufacturers who have reached a position in the industry at which they are quite willing to become aggressive when their sales volume starts to slip for one reason or another. It is for this reason that many new sharp practices will no doubt creep into the merchandising of pharmaceutical preparations as competition becomes keener.

Thus far the merchandising of pharmaceutical preparations has been quite free of this sort of thing. Pharmaceutical merchandising has been carried on mainly by pressuring the doctors into prescribing particular items, acquainting them with the name of the company and the names of its products, advertising to them through the medical journals and by direct mail. In addition to this, goods have been distributed very largely through wholesalers, with retailers also detailed regarding the products. The sales policies of the companies vary all over the lot. Some manufacturers sell wholesalers, retailers, chain stores, department stores, hospitals, doctors, dentists, and anyone else who uses their products. Discounts to the various groups vary with the whims of the particular manufacturer. Then some manufacturers do not sell all these groups, and

(Continued on page 555)



Shelf-life Stability of Cosmetics

by Harry Hilfer

Perhaps the gravest decision which a cosmetic technical man must make is to unqualifiedly advise his management that a product that he has been working on is ready for distribution. Usually he has not had it under test for what he considers a great enough period of time and though he has submitted the preparation to accelerated tests there still exists a large element of uncertainty. In the discussion which follows methods now being used as accelerated aging tests will be evaluated, but I think it wise to go on record as believing that there is no test as good as actual time on the shelf and subjection of the product to the normal temperature extremes it would possibly meet during the estimated time of its existence.

Most manufacturers expect an average maximum life of one year for a preparation to go through distribution channels and be consumed by its purchaser. Obviously the best methods of testing are to place the product in storage for a full year—before manufacturing starts. During this period some of the samples may be checked at freezing temperature and some at temperatures of about 105° F. simulating winter and extreme summer temperatures to see if they stand up. There is no absolute simulation of this type of testing by accelerated tests, but too often a year's testing period is excessive. Accelerated tests used as substitutes must all be qualified as to the preparations involved.

For most preparations, subjecting to heat is the best single accelerated test. This is particularly true where there is a possibility of an actual chemical change rather than a physical change—such as a break in an emulsion. Boiling a hydrogen peroxide solution or other preparation containing hydrogen peroxide for twenty-four hours under reflux and determination of H_2O_2 loss by titrating before and after heating is a good method of determination of the stability of the product. Similarly, heating a shampoo containing sulfated alcohols or other sulfated bodies and checking the pH will also show whether any hydrolysis of the detergents will take place on long standing. Accelerated methods for determina-

tion of the product's susceptibility to rancidity may be made by testing at increased temperatures in the presence of a stream of air. These reactions, and others where the reaction is increased by heat, may be accelerated in this manner and for each reaction it may even be possible to form a correlation between exposure to heat as against time at room temperature.

In certain applications—most probably when colors are being employed—a contrast source of light is also used as a measure of resistance of the color in the product against fading. Color changes may also be caused by the inability of the dyestuff to resist one of the ingredients of the preparation—but heating would accelerate changes due to a chemical reaction between the two. As far as the changes due to light themselves however—submission of the product to ultra-violet is a good measure of light resistance, since ultra-violet light is more likely to cause a destruction of the color compound than the other components of sunlight. Here again the best test is submission to the direct rays of the sun. This is difficult, however, because of the varying intensities of light possible due to atmospheric conditions.

The most troublesome classification of cosmetic products from a stability standpoint are the emulsions. Subjection to heat is no absolute criterion of stability, since it is easily possible to make an emulsion more stable at higher than room temperature. Subjection to freezing temperatures also suffers from this same defect. This is true because of the easy transition from the colloidal to the true solution or to complete insolubility of the various emulsifiers with changes in temperature. For example, it would be expected that sodium stearate which is almost insoluble at room temperature would reach an optimum colloidal state at an increased temperature. Certainly an emulsion prepared with sodium stearate would be more stable at higher temperatures than at room temperature. Many people making emulsions have come to the reluctant conclusion that high temperature testing of emulsions indicates only the stability at the temperature employed and has no correlation with stability at room temperature. In my own opinion the emulsions should be tested at 105° F., for as long a time as is possible, but if there is no break at the end of two weeks it is fairly good evidence of stability to summer temperatures—since there are very few places in the world where there is a two-week continuous shell of temperatures as high as 105° F. without intermittent cooling off periods.

The same product should be tested simultaneously against reduced temperatures. There are two points of view taken insofar as the theory is involved. The product could be formulated so that there is no freezing at let us say 10° F. and efforts are made to so formulate so that there is no emulsion break at that temperature as well. If the product stands up equally well at 105° F. the chemist may be 90 per cent certain that his product will stand up at all temperatures between these extremes. However, during transit it is possible for the emulsion to pass through temperature zones as low as —30° F. where it would ordinarily freeze. Under these conditions he has no assurance that his product will regenerate to its normal room temperature condition and viscosity unless he checks these conditions. The second point of view assumes that the emulsion will freeze if subjected to low enough atmospheric temperatures but the product is checked to assume regeneration at normal room temperatures. No set rules can be employed as to the length of time the product should be subjected to these extremes in testing. A good policy would be the longer the better.

Emulsions should also be tested against rapid temperature changes since such conditions can easily induce a thixotropy, particularly when there is a sudden lowering of temperatures. In most cases the thixotropic effect will disappear on standing at constant temperature, but too often it remains. If the sample were subjected to alternate periods of refrigeration and heat its properties under these conditions could be studied and if any defects became apparent they could be remedied.

Various methods have been proposed to study the predisposition of emulsions to separations. The most notable of these is the use of the centrifuge to see how long the emulsion will resist separation under a standard set of conditions and then trying to correlate them to actual shelf life under normal conditions. Though this may be a good control method the ratio has been found to differ with different types of products. In addition, there is a varying period of time which should be allowed for the emulsion to attain an equilibrium—not ordinarily reached immediately after manufacture. Results with the centrifuge vary with the period of equilibrium phases.

Another method is a microscopic technique of calculating the percentage of dispersed droplets over a certain size as a method of determining how quickly the dispersed phase is coalescing to form what will eventually be a separated phase. This method is not absolute since emulsions vary considerably as to the relative distribution of the large and small dispersed droplets.

Checking the emulsion against different temperatures and subjecting it to temperature changes is probably the best single method of checking its stability. However, the other methods proposed are of value in helping to arrive at a better understanding of the forces at

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Michael F. Charley reelected president, A.P.M.A.

A.P.M.A. Meeting

Dr. Charles Huggins, of the University of Chicago, in his acceptance address following his being awarded the 1953 Research Award of the American Pharmaceutical Manufacturers Association, said that he believed that control of cancer is a chemical problem. Furthermore, he believed that the answer lies in the steroids. He said that the organic chemical industry is far ahead of the biologist and cancer investigators in this respect. One chemical manufacturer, he said, will have 500 crystalline steroid compounds, but the problem that holds up their application, is the testing of them to find which one or more, if any is the key to cancer.

Dr. Huggins explained that it has been proven that cancer is not the result of bacteria or virus. It is unrestrained growth. Some treatment has been the killing of these cells, similar to the use of weed-killers to destroy unwanted plant growth. However, this has not worked to cure cancer. The leads in steroid hormone application are the most promising, he said. Steroid hormones will induce cancer, and they will also prevent and cure cancer. The steroids, which are related to cholesterol, are not toxic and will do no harm, according to Dr. Huggins.

The treatment of cancer with stilbestrol assured the future of treatment of cancer by drugs just as certainly as the Wright brothers 12-second flight at Kitty Hawk assured the future of flying with heavier-than-air flying machines, said Dr. Huggins.

Dr. Huggins explained that in 1876, Dr. Beechman in Scotland got the idea that ovarian irritation caused cancer of the breast. He operated for removal of ovaries, and this method of treatment was used for the next ten years. Then treatment with irradiation was used, and this blocked progrss because it was a mistake. However, it was found that the condition existed in women with their ovaries removed and in post-menopausal women. It was then determined that the adrenal glands, as well as the ovaries, delivered estrogens to the system. Hence the answer, initiated by Dr. Huggins, was removal of the adrenal glands and replacement of their secretions with cortisone and desoxycorticosterone. In this present surgical treatment of cancer Dr. Huggins explained that he removes the supporting factor, but does not touch the cancer. He said that is not control by the weed-killer method.

Dr. Martin Lasersohn, chairman of the APMA Scientific and Research Award Board, said that the medical profession and the pharmaceutical manufacturing industry must intensify their efforts to make the public cancer-conscious. He called for a vast intensification in the nation-wide cancer-detection program at all levels of the population. The drug industry should redouble its efforts, in cooperation with the medical profession, to alert the public to be on guard. Drug manufacturers, he suggested, would be performing a valuable service by means of a consistent educational campaign in the form of advertising in the medical

journals, direct-mail literature, and through sales representatives calling on the doctors.

Dr. Lasersohn said that the number of patients recovering from the newer techniques of cancer surgery has more than doubled in recent years. "With the aid of incredibly powerful radiology machines such as the million-volt x-ray generator and the 24 million-volt betatron, we are now able to destroy cancer cells more effectively than ever before. . . . We now feel certain that we are on the road to learning the relationship between cancer of the breast and the prostate gland, and their cause by altered pituitary and adrenal gland secretions."

About 70 to 80 per cent of patients with breast cancer, the most common type in women, can be cured today if the tumors are detected while they are still small, said Dr. Lasersohn. He said further that surgery and radiology are also responsible for an impressive percentage of cures of prostate cancer. Six sites of cancer origin—uterine cervix, breast, lung, rectum, mouth and skin—account for nearly 50 per cent of deaths in women and about 25 per cent in men. Each is susceptible of early discovery and can be cured with a high rate of success, he said.

Dr. Austin Smith, editor of the Journal of the American Medical Association, said that of the 250,000 cancer deaths recorded for 1950, 19,000 were due to cancer of the breast, and 11,000 were due to cancer of the prostate gland.

Speaking on the Problems of Clinical Medicine Research, Dr. Theodore G. Klumpp, president of Winthrop-Stearns, said:

"We can't make much progress if we have only one, two or three bright young scientists shut up in a laboratory, puttering along on problems as vital as health and life. The sooner we realize that the day of the bright individual investigator working alone in a hermetically-sealed compartment is gone forever, the sooner will we solve problems that are far more important than nylon stockings, synthetic rubber, or the tensile strength of steel. Progress in the future will come increasingly from the collaborative efforts of chemists, physicists, physiologists, pharmacologists, and clinicians."

Pointing out that the introduction of a new drug product is an "infinitely complex operation beset with financial hazards," Dr. Klumpp continued:

"Few know of the extremely complicated technical difficulties that stand in the way of invention; of the problems of laboratory and pharmacological evaluation; of the exacting and costly controls necessary to safeguard the identity, strength, quality and purity of drugs; of the highly-specialized know-how involved in getting adequate clinical studies; of what is entailed in meeting the requirements of the New Drug Section of the Food, Drug, and Cosmetic Act.

"Then, finally, there is the great expense of launching and promoting a new drug. And failures to establish a successful product still occur even when the most highly skilled and experienced organization introduces a new drug."

Dr. Charles Huggins, cancer research clinician from University of Chicago, receiving 1953 Research Award of A.P.M.A., at 46th annual meeting from Michael F. Charley, Standard Pharmacal Co., president. Looking on are Dr. Austin Smith (far left), editor of A.M.A. Journal; Dr. Martin Lasersohn, right, Winthrop-Stearns, chairman of the research award committee; and Kenneth Valentine, Pitman-Moore Co. (far right), vice-president of A.P.M.A.

Referring to the vital role of drugs in prolonging life through the successful treatment of many heart diseases, Dr. Klumpp attacked "those who attempt to minimize their importance," and continued:

"Medical literature and hundreds of thousands of people now living full lives will attest to the life-saving power of heart drugs. Yet we recognize that drugs are only adjuncts giving Nature an opportunity to do the curing and healing."

In combatting heart disease, drugs have been a major factor in four important medical advances, said Dr. Klumpp. He listed these as: control of rheumatic fever; successful treatment of subacute bacterial endocarditis, reducing it from 100 per cent mortality to less than 10 per cent if treated early; prevention and treatment of syphilitic heart disease; and surgical treatment of congenital heart conditions.

Dr. William A. Feirer, executive vice-president and director of Squibb Institute for Medical Research, speaking on the subject of Health Economics, outlined the work being done by the Health Information Foundation and the need for such work. He spoke of the appearance of HIF President, Admiral Blandy, before a Senate Committee. The Senate Committee was so interested in one of the research projects of the HIF that they asked if it could not be speeded up so that

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EWING GALLOWAY PHOTO

Masking Medicinal Flavor

by Louis J. Strasburger

FLAVOR RESEARCH LABORATORY
VAN AMERINGEN-HAEBLER, INC.

Until comparatively recent times, the public had resigned itself to the evil taste of medicine and some people, half jokingly, measured the curative powers in direct proportion to the degree of nausea experienced with the dosage. Competition has changed that idea. As the number of pharmaceutical manufacturers increased, greater attempts were made to produce a palatable and consequently more acceptable medicine. However, it was soon realized that the basic and generalized flavor training of the pharmacist was inadequate to cope with so specialized a problem. The question of flavor was then submitted to a few houses specializing in the creation and development of flavors and flavoring material. The ensuing investigations were concerned with the masking of undesirable medicinal odors and tastes, and involved the selection or creation of flavors that would result in a palatable product. Our line of reasoning, the methods employed to substantiate our deductions and the conclusions at which we arrived can best be understood after reviewing some of the fundamentals comprising the mechanism of taste.

In the broad sense of the term "taste" includes both senses of taste and smell. There are but four stimulations that can be excited by taste buds: sweet, sour, salt and bitter; and possibly two more: alkaline and metallic. Since the taste of raspberries, strawberries, peaches, apples, pears, etc. constitutes a varying sensation of acidity plus something else (that "something else" is not experienced if the food is eaten while holding the nose), it becomes evident that the olfactory nerves are responsible for the fine differentiations of "taste" and that this "sense" is a *composite stimulation of two separate sense organs.*

The impossibility of subduing a basic taste by aromatic means is apparent with clearer understanding of the mechanisms involved in recognition of "taste." When a substance is taken into the mouth it is almost immediately reacted upon by the solubilizing action of saliva, and stimuli received by the taste buds from the resulting solution are carried by nerves to a particular region of the brain, where it is translated as a definite sensation. This is separate and distinct from another impression received simultaneously from the olfactory nerve endings that have become stimulated by odorous particles arising from the mouth into the nasal cavity. These olfactory stimuli are carried to another portion of the brain by course of a single nerve. Two different excitations are then involved in the process of "tasting," and in no way do they converge in their pathway to or in the brain, as has been indicated by Bornstein (Bornstein W. S. Yale J. Biol. Med. 12, 719-36, 1940) and Leight (Leigh A. D. Lancet 1943, i, 38-40). Obviously then, attempts at masking a basic taste by olfactory stimulation is as absurd as hoping to subdue a terrific pain in the foot by viewing some beautiful works of art.

A more logical approach to solving the problem presents itself on further consideration of the separate sensations that comprise "taste." Fruits and berries

are acid and aromatic; nuts, spices, and some fruits are bitter and aromatic and butter and cheeses are salty and aromatic. By themselves, the basic taste sensations of acid, bitter and salt are not very pleasant, but augmented by the aromatic constituents, they become palatable and highly desirable. Obviously then, Man, in his appreciation of natural and prepared foods, has established certain groupings of olfactory and taste-sensations which he considers logical and congruous. For this reason, salt will never blend with raspberry. The flavor oil may be increased to such a concentration where the aromatic irritates the tongue and a sensation of saltiness will still persist. But blend that taste of salt with butterscotch, caramel, lemon or lime in proper concentration, and the mixture becomes palatable by reason of the facts that this is an accepted combination, and salt imparts the same fullness and character to butterscotch and caramel that citric acid gives to fruit flavors. Suggestions of lemon and lime with salt may seem strange but they have possibilities in some cases since the public has shown an acceptance for lithiated drinks where the salty taste of the once-accepted lithium chloride was predominant. Bitterness is very difficult to mask because it is the most nauseating and persistent of the basic taste sensations. For this purpose, a strong, lingering flavor, associated with a bitter character must be chosen. Usually chocolate is excellent for the purpose but in many instances apricot, apple and vermouth are adaptable. Chocolate has the greatest popular appeal but is not always desirable in pharmaceutical products because of its specific effects on the normal functioning of the body.

These examples give a general idea of the line of reasoning and the methods employed by the flavor chemist in solving taste-masking problems. It is a logical approach, and the success we have had in this work proves the value of our theory.

On occasion it is possible to reduce or even obliterate an obnoxious character in a product by anesthetizing the taste buds. This is accomplished by the use of peppermint, spearmint, menthol or wintergreen as a complete or partial flavor. In the case of mints, the local anesthetic effect is due mainly to the presence of menthol whose cooling properties dull the sensitivity of the taste receptors in much the same fashion as freezing will numb the tactile senses. The anesthetic effect of these aromatics is also carried to the olfactory nerve-endings but inasmuch as they have contact with vapors rather than liquid, their response to stimulation is but slightly reduced and the odor value of the minty flavors can still be appreciated.

Not all of our pharmaceutical work is concerned with taste-making. On one occasion a powder with the disgusting odor of putrefaction was presented. This product is prescribed as a medicine for certain gastric disturbances and is to be taken orally. Its vileness caused the patient with a weak stomach to become nauseous and retch; actually, a person with a normal stomach "had all to keep his own." The problem involved odor-masking so that the medicine could be administered without ill effects. Attempts to cover the stench with such strong aromatics as violet, wintergreen, peppermint and various breath-sweetening compounds proved futile. These would not completely overpower the product's inherent aroma and the resulting mixture was as disgusting as the original by virtue of contrast. Again the method of "masking taste with congruous odor" was applied but in this circumstance the disagreeable odor would be disguised with an appropriate as well as pleasant one. The smell of putrefaction is somewhat analogous to that of strong butter. By trial and error it was found that butter-caramel, rather than butterscotch, covered excellently and that the putrid odor augmented the butter notes with caramel the predominating character. In this particular instance, the odor and taste of the product were appreciably improved by logical flavor—odor type combination.

There is another group of pharmaceuticals which should be discussed: They are of the class difficult to flavor because of chemical composition. Within the past few years medical research has established the detrimental effects of acidity. Hyperacidity in the stomach causes headaches and general gastric disturbances, and acid in the mouth induces tooth decay. To overcome these conditions alkaline preparations have been made and placed on the market. Flavor is an important selling factor of the products since they are taken orally, and pleasant taste is necessary for greater acceptance.

Most publicized of alkaline compounds have been the recent ammoniated tooth pastes. In early experiments manufacturers of this pharmaceutical discovered that acceptable flavors used in the past are not stable in the new dentifrice, and among those initially tried and found to undergo rapid change were the mints that have always been popular for this use because of their refreshing and "clean" residual taste. The chemistry of organic compounds indicates a reaction of esters, aldehydes and ketones in the presence of ammonia. Esters are converted into the corresponding alcohol and salt, and aldehydes and ketones form addition products. Since these newly-formed materials are entirely different from the original compounds that are very important aromatic ingredients in both natural and formulated flavors, the odor changes occurring in the alkaline base are readily understood but this knowledge did not solve the manufacturer's flavor problem.

The first group of ammoniated tooth paste flavors produced were formulated of compounds stable in a basic medium. They are quite economical to use, have excellent shelf-life and impart some of the refreshing taste characteristics expected of a flavored dentifrice. But research in the chemistry of these alkaline products was continued by our laboratory, and the application of that knowledge in formulation enabled us to produce a number of excellent mint flavors that maintain taste-brilliance and have proved their permanence in accelerated aging and shelf-life taste.

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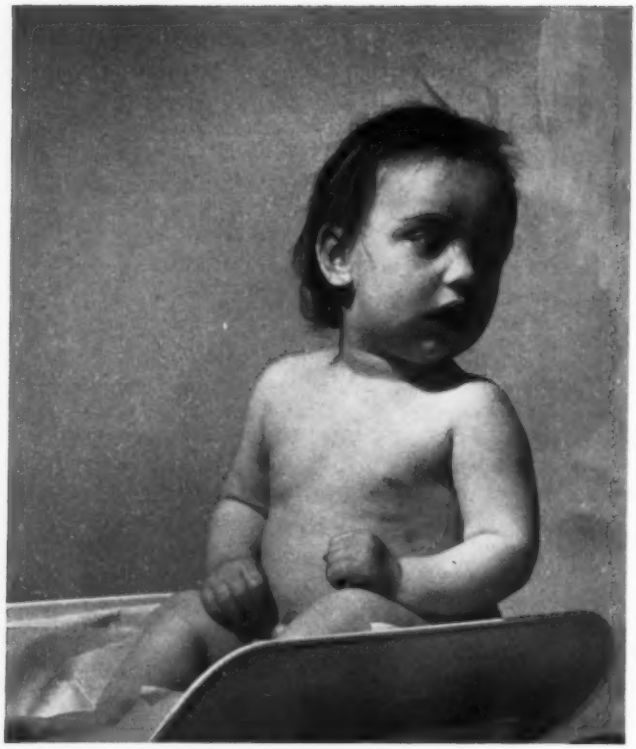

COURTESY STANDARD OIL CO. (N. J.)

Diaper Rash

by Milton A. Lesser

The skin of an infant is a delicate and tender thing. It is therefore subject to a variety of disorders. One of the first and most frequent of such disorders is the condition commonly known as diaper rash.

Described by Lowenburg[1] as "one of the most perplexing and annoying minor pathological conditions to which an infant is heir," diaper rash is also described by such names as diaper dermatitis, diaper eruption, napkin erythema, ammonia dermatitis and erythema gluteal. In some scientific circles, the condition is often referred to as the erythema of Jacquet, after the man who, in 1905, clearly distinguished this disorder from other lesions and described the various states of the eruption.

According to Benson and his colleagues,[2] diaper rash is the most common skin condition encountered in infants and young children. The dermatitis is generally limited to the diaper region, affecting the lower abdomen, the genitals, the thighs and the lower buttocks. Characteristic of the disease is the fact that the lesions are seen almost exclusively on the convex surfaces or prominences of the diaper area, while the flexures and skin folds remain free of the condition. Red patches sometimes develop on the calves and heels of the child from contact with the external surface of the wet diaper.

The lesions, which consist of inflamed areas in the diaper region, are usually characterized by blebs and vesicles. If allowed to go unchecked, these lesions may develop into severe ulcerations.[3] Such ulceration is particularly troublesome in the external urinary meatus. Thus, in male infants, the tip of the penis may become excoriated when the rash is present or from contact of the sensitive mucosa of the urethra with a wet diaper. A scab frequently forms which may partially disturb the flow of urine and thereby produce dysurea. The usual complaint is that the baby urinates frequently and that specks of blood appear on the diaper.

In making a diagnosis of diaper rash, dermatologists[4,5] stress the importance of differentiating this condition from other dermatologic disorders, especially congenital syphilis. Other possible rashes which may occur in the diaper area and cause confusion include

contact dermatitis, atopic dermatitis, acid fecal irritation, and intertrigo.[16] According to Pratt,[7] perianal dermatitis of the new-born is another common eruption that may be confused with the more familiar napkin dermatitis.

The diagnosis of diaper rash is generally simplified by the fact that the odor of ammonia is present in a greater or lesser degree in the diapers. This ammonia, commonly accepted as the primary irritating cause of the condition, is produced from the decomposition of urea in the urine through the action of the organism, *Bacterium ammoniagenes*, which occurs in the feces and contaminates the diaper region.[8] Other organisms, such as the *Staphylococcus albus* and *aureus* have a similar ammonia-liberating effect on urea.[9]

Tight-fitting diapers, often associated with rubber or plastic baby plants, prevent the escape of the ammonia vapors. These attack the sensitive skin of the infant and cause the irritative lesions to develop.[1] Liberation of free ammonia often occurs during the long hours of the night when diapers go unchanged.[10]

Other factors have been held responsible for the dermatitis or are believed to play a part in its occurrence and severity. Thus, studies made by Brown, Tyson and Wilson[11] indicate that the diet may be an important factor because of the type of stool it may produce in the individual child. A soft or liquid stool would spread more easily, thereby increasing the area of possible irritation, while a diet rich in nitrogen would produce a correspondingly high urea output in both feces and urine. Pertinent in this connection is Lowenburg's[1] observation that diarrheal stools are usually acid and often produce a rash by burning the skin. A highly concentrated urine may also cause a scaldlike irritation of the tender skin of the infant.[12]

Goldstein[3,13] is of the opinion that many cases of diaper rash are endogenous in origin due to a negative nitrogen balance brought on by faulty diets, gastrointestinal upsets, infections, allergy and other conditions. In such cases, the urine has a high ammonia content when voided. The diaper rash results directly from this irritation and not from ammoniacal decomposition after urination.

Standards of hygiene are also important considerations in the occurrence of diaper rash. As remarked by Burks[14] the use of coarse, rough, improperly laundered diapers often sets the stage for the dermatitis. For example, alkaline soap residues left in poorly rinsed diapers can be quite irritating and cause a rash.[15,16] Occasionally, the antiseptic solutions used for rinsing diapers are responsible for the dermatitis.[17,18]

"The most important phase of the treatment of diaper rash," says Lowenburg,[1] "is its prevention." Of prime importance in this connection is the need for keeping the baby's skin clean and dry at all times. Brown and his colleagues[11] have found that the simple expedient of thoroughly cleansing the diaper area, following defecation, with warm water and mild soap and applying oil or powder has done much to reduce the incidence of dermatitis. In the opinion of Burks,[14] proper prophylaxis consists of avoidance of overfeeding and resultant diarrheas, frequent diapering with soft clean material, and proper laundering.

Since diapers play such an important causal role in the dermatitis, many workers have studied the preventive approach via the diaper itself. McKhann and Bricmont,[19] for example, have designed an improved diaper which reduces the incidence of diaper rash and is not uncomfortable or unsightly.

Most investigators, however, have followed the line suggested some years ago by Cooke.[8] He had reasoned that since most of the urine involved in the ammonia formation was held by the diaper, the logical approach to treatment and prophylaxis would be through this garment. On the basis of his method, which has proved to be basically sound and efficient,[20] considerable research has been directed toward finding a nonvolatile antiseptic for diaper impregnation.

This is reflected in the view expressed by Pfeffer and Smith.[21] In their opinion the ideal treatment and prophylaxis for ammonia dermatitis would seem to involve impregnating the thoroughly cleaned and rinsed diaper with some nontoxic, nonirritating substance capable of inhibiting ammonia formation. Such a substance should be cheap, easily available, and easy to prepare for use.

Preparations for this purpose are now available for home use and compounds of this type are regularly employed in the commercial diaper washing procedure. Almost without exception, the commercial diaper laundries, which maintain rigid hygienic standards,[22] treat all diapers with an impregnating germicide as a standard procedure. Approximately one-third of the diapers are treated with mercury preparations; the others being rinsed with solutions of quaternary ammonium compounds.[10] These substances, as well as boric acid, are also used in home diaper laundering practice.

Dilute phenylmercuric acetate solutions are now used by some commercial laundries as final rinses for diapers. However, mercuric chloride, the first antiseptic employed for such purposes,[8] still finds rather frequent use for treating diapers.[10,15] For years, physicians have recommended weak solutions of this antiseptic and it has served to prevent bacterial growth and ammonia formation. There is, of course, a toxic hazard in the use of bichloride of mercury and users should be warned of its poisonous qualities.

Recognition of these dangers led to the use of saturated solutions of boric acid as final diaper rinses. Boric acid has long been, and still is, a popular material for impregnating diapers.[12,21] Sulzberger and Wolf,[23] for example, state that soaking the diapers in a saturated boric acid solution is "the best way to combat the harmful effects of ammoniacal stool and urine."

It is recognized that boric acid is not a particularly strong antiseptic.[9] However, according to Lowenburg,[1] the theory behind its use as an impregnant is to have a mild acid present in the diaper to neutralize the am

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Nutrition Research*

by W. H. Sebrell, Jr.

DIRECTOR, NATIONAL INSTITUTES OF HEALTH, UNITED STATES PUBLIC HEALTH SERVICE.

An important and frequent question today is, "What potentialities remain in the field of nutrition research?" It is a question that recalls great progress in the past; but it also implies that the science of nutrition may have reached a point of diminishing returns. Nothing, to my mind, could be farther from the truth. I welcome this opportunity to point out some of the problems now ripe for nutrition research, the ever-widening avenues of approach, and the enormous possibilities for an increasing role of nutrition in health.

One of the most successful approaches has been the search for new vitamins and the determination of their role in health and disease. This is an investment that continues to pay dividends. Unknown nutritional factors undoubtedly remain to be found. In addition to the old familiar methods of study, which include the use of microorganisms as test objects, research men are developing novel techniques for this work. For example, some look hopefully toward animal tissue culture as a tool to define the nutritional requirements of a particular type of cell. A technique that shows great promise is the use of vegetable tissues as indicators in the assay of possible growth factors.

Among the growth factors recently isolated are those from coconut milk, first noted by van Overbeek in 1941. Studies on coconut milk by various investigators illustrate the use of vegetable tissue assays. Among those who report the growth-promoting properties are deRopp and others, using carrot on a medium of sucrose, minerals, and agar. This medium and coconut milk supported the growth of carrot tissue in darkness for over a year, through more than 100 transfers. Last year Shantz and Steward, with the aid of a grant from the National Institutes of Health, isolated three crystalline compounds, apparently new, which in combination with other substances comprise "CMF," the coconut milk factor. Whether these substances have economic or clinical possibilities is as yet undetermined.

Another growth factor recently detected is one that protects growing rats against dietary necrotic liver degeneration, a disease apparently related to acute yellow atrophy in humans. The disease in rats occurs on diets free of cystine, vitamin E, and a third substance, the so-called "Factor 3," discovered by Schwarz at NIH. It is interesting that prior to recognition of this factor,

*Delivered at the Annual Meeting of the National Vitamin Foundation in New York City, March 4, 1953.

workers in Europe could produce the disease readily but Americans could not duplicate the results. At length, the difference was found in a dietary component, yeast, which is apparently protective unless grown on a simple medium such as molasses. Schwarz has obtained the factor in high concentration from casein.

Other workers are studying what seem to be hitherto unknown substances, each required for the growth of some microorganism—notably, *Lactobacillus bifidus*, *Lactobacillus gayoni*, and *Mycobacterium flavum*. I shall mention only the bifidus factor, which seems to have interesting clinical implications. It has long been known that infants bear different types of intestinal flora depending upon the source of the milk they receive. In particular, breast-fed infants harbor the bifidus organism in high quantity. This suggested the presence of a bifidus growth factor in human milk, and a substance required by one strain of the organism has been detected by Gyorgy and associates and studied chemically by Kuhn. This leads to interesting speculations, such as whether the bifidus factor is related to supposed differences in health. Further investigation may lead to its isolation and the determination of its possible value in the nutrition of infants.

Although the specific vitamin deficiency diseases have been brought under control as public health problems in the United States, it is quite likely that diseases of which the etiology today is unknown will yet be connected with a nutrition or metabolic defect. There has recently been a great deal of interest in reports by Wetzel and associates in 1949 and '52, in which vitamin B_{12} was said to correct retarded growth in children. The growth rates before and after supplementation differed, but whether the vitamin was actually responsible is uncertain. Further research on this problem, which has tremendous implications for child health and development is urgently needed.

The exact place of all nutritional factors in the problems of infant mortality, resistance to infections, loss of vigor, and other prevalent forms of illness and debility must yet be determined.

Even the study of an inorganic nutrient such as calcium still offers attractive possibilities. The skeleton is now regarded as a living tissue, rather than just an inert framework. Isotopic tracer studies have shown that the calcium ion enters and leaves the skeleton with considerable rapidity. Both the calcification and decalcification of tissues are fields in which much research is needed. What is the exact form in which calcium is deposited in tissues? Why is it deposited in some tissues and not in others? If we could gain control over calcium metabolism, we would possibly have a new approach to some of the deformities of arthritis. In leprosy, although a bacteriological disease, entire bones may disappear as a result of resorption, and in tuberculosis, calcification often occurs in the lesions. Explanations of some of these disturbances of calcium metabolism could be of much significance.

There are also the many health problems known to involve nutrition but as yet unsolved. Primary in terms of prevalence, and a frequent precursor of other diseases, is that of obesity. Insurance records indicate that a quarter of the adult population is obese—that is, sufficiently overweight to impair health. Mortality for this group, according to recent estimates by the Metropolitan Life Insurance Company, is well above normal at every age and rises with increasing weight. When this fact is explored further, we become involved in another group of health problems—the chronic diseases.

Obesity is associated with a high mortality from cardiovascular-renal diseases, diabetes, childbirth, and diseases of the liver and gallbladder. Deaths from diabetes are more than three times as common in the obese as in persons of average weight, and deaths from cirrhosis of the liver among men, more than twice as common. The overweight also have a high incidence of hernia, urinary impairments, cancer of the endometrium, and some forms of arthritis. For the most part, these are diseases on the increase with the aging of our population. Hence, the obesity problem is evidently of mounting significance.

The cause of obesity and its etiologic relation to some of the chronic diseases remain obscure. Most authorities believe that in the great majority of cases, obesity represents merely an excessive appetite, rather than a metabolic aberration such as hypothyroidism. Apparently the normal person possesses a mechanism of some kind for balancing appetite against exertion, and thus for maintaining constant weight. In obesity, this mechanism, termed by Jolliffe the "appestat," fails to synchronize. We may well ask, however, whether the appestat is disrupted psychologically or fails physiologically. Why do some people eat more than they need?

To explain this, many observations and theories have been advanced. They involve psychological mechanisms, lesions of the central nervous system, endocrine imbalance, metabolic disorders, and various other aberrations, representing too broad a field for discussion here. I would like to mention, however, a recent observation by Mayer at Harvard, who has found an inherited metabolic defect to be the cause of obesity in a strain of experimental mice. This finding offers valuable material for study and presents many implications.

An important and possibly connected problem—which brings us to the chronic diseases often associated with obesity—is that of circulating cholesterol as related to arteriosclerosis. Many of you will recall two studies, among others, that indicate such a relation. Gofman's group at the University of California found abnormal cholesterol-bearing molecules in the blood of sclerotic patients; and Bevans at Columbia, by means of a high-cholesterol diet and thyroid interference, produced lesions in the coronary arteries of dogs. More recently, Bragdon at the National Institutes of Health obtained convincing evidence that the cholesterol in such lesions is deposited from the circulation. Rabbits

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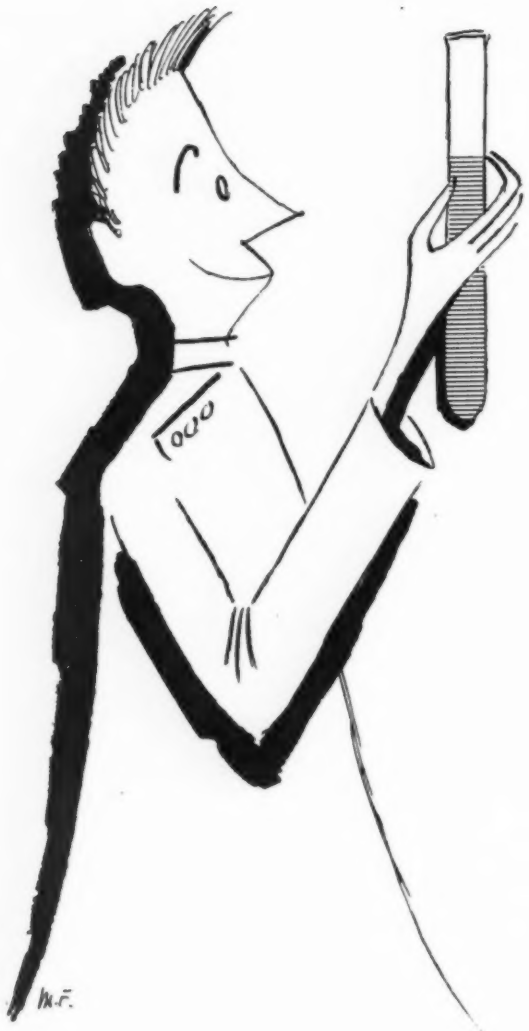

Pharmaceutical Industry Progress*

By Charles Wesley Dunn

GENERAL COUNSEL, AMERICAN PHARMACEUTICAL MANUFACTURERS ASSOCIATION.

The pharmaceutical industry is, of course, a business organization, governed by the general economic principles controlling the destiny of all private industry. For example: the principles of supply and demand, competent management and efficient operation, and successful competition.

But this industry has significant distinguishing aspects. They mainly include: first, the character of a basically essential and highly technical industry, having a profound relation to the public welfare; and, secondly, a dominating need for the research development and accurate manufacture and safe marketing of vital drugs, to protect and improve the health of our people. That is why this industry is placed under an extraordinary government regulation, which assures its due conduct. That is also why this industry is a necessarily ethical one, which must have the highest standards of business ethics and public responsibility. And that is further why this industry will make continuous business progress, which has no foreseeable termination in normal course and the long view. Only undue government interference can prevent that progress; aside from any curtailment of it through unsound industry practices, such as excessive price cutting or enhancement.

These are fundamental considerations for which the industry should have a statesmanlike regard, at all times.

Of these considerations the modern business progress of the pharmaceutical industry, actual and prospective, is a matter of deep practical concern to it. In 1947 I predicted that this industry would then do a business of about $550 million, in manufacturers' dollars. Such a prediction was based on known and representative facts; but it was subsequently found that the actual amount was about $27 millions less. Consequently if we assume that the 1947 business of this industry approximated $523 millions in such dollars, the following question is presented: What was the increase in that business, during the next five years? For this was the period of its greatest modern increase, to date. I referred this question to Dan Rennick, editor of the American Druggist, who is an able and experienced analyst of the drug business. And he has recently given me an estimated answer, soundly calculated on the basis of the pertinent government statistics and the

*An address before the 46th annual meeting of the American Pharmaceutical Manufacturers' Association, March 30.

published reports by larger manufacturers and a typical survey of smaller manufacturers.

This answer relates only to the pharmaceutical industry, exclusive of the medicinal chemical and proprietary medicine industries; and it starts with the above premise that the 1947 business of the pharmaceutical industry approximated $523 millions, in manufacturers' dollars. Its estimate is that this business thereafter progressed as follows, in such dollars: in 1948 it increased to about $575 millions; in 1949 it increased nearly $614 millions; in 1950 it increased to about $682 millions; and in 1951 it increased to nearly $841 millions; but in 1952 it decreased to about $838 millions. That decrease, however, was a technical one, caused by competitive price reductions; and the business of this industry then substantially increased, from a volume standpoint. Hence if we give the 1947 business an index of 100, we find that this index figure progressively rose to 110 in 1948, to 117 in 1949, to 131 in 1950, and to nearly 161 in 1951; but that it so technically fell to slightly over 160, in 1952. In short and taking the past five years as a whole and speaking in manufacturers' dollars; we thus find that the pharmaceutical industry's business then increased nearly 61 per cent, from its 1947 level; and that its maximum increase came in the last two years, when the increase climbed from 31 per cent in 1950 to the approximate 61 per cent peak a year later.

That 61 per cent increase in the pharmaceutical industry's business during the past five years is a most impressive one; and it is also a very dramatic one, since it was mainly caused by an historic advance in fundamental drug research. It strikingly compares with an estimated 80 per cent increase in the related business of the organic chemical industry and the estimated 20 per cent increase in the companion business of the food manufacturing industry during that period, in manufacturers' dollars. But while this increase in the pharmaceutical industry's business then is an impressive one, it is more significant that such increase is sure to continue down the years; and the only questions are how fast it will proceed and how far it will go. This is so for the basic reasons of infinite health need and drug research progress and domestic population increase and foreign trade expansion, ever inducing a commensurate increase in this business; which is now encouraged by the absence of government material limitations and price controls. For these basic reasons and in view of the 61 per cent increase in this business during the past five years and its maximum acceleration in the last two years, we may conservatively predict that its estimated 1952 figure may at least rise to $1\frac{1}{2}$ billions or more in the next ten years. Which does not appear too high an amount, in all the circumstances and by comparison with the progressive modern increase in the related medicinal and organic chemical industries. In considering this amount it is interesting to note that the estimated 1952 business of the companion food manufacturing industry approximated $40 billions, in such dollars; and two manufacturers alone in that industry each now do an annual business substantially exceeding $2 billions.

It follows that manufacturers in the pharmaceutical industry may contemplate its future business progress, with justified confidence. But this is only true, of course, if and to the extent that (*a*) each manufacturer conducts his own business on the essential basis of the required drug research and competent management and efficient operation; (*b*) he does not permit his constructive production success to be impaired by a destruction price competition; and (*c*) the business of this industry is allowed to continue in an order of true free enterprise, whereby its natural advance is not restricted by government action for repressive socialized medicine or for its undue limitation otherwise.

That heartening statement about the future business progress of this industry applies to the smaller as well as to the larger manufacturers. For Mr. Rennick's recent study discloses a further significant fact, which may surprise and will reassure the smaller manufacturers. For it indicates that if the 1950 business of the pharmaceutical industry is given an index of 100, this index figure rose to 121 in 1951 and fell to 120 in 1952 for the ten largest manufacturers; whereas this index figure rose to 126 in 1951 and then further climbed to 127 in 1952 for the other smaller manufacturers. Consequently the latter smaller manufacturers competitively outpaced such larger manufacturers in business progress during the last two years, on a percentage basis; and the fact is confirmed that it was the larger manufacturers who suffered the technical business decline in 1952, caused by competitive price reductions. Moreover this study establishes the basic fact that the public need have no fear that the larger manufacturers will monopolize the business of the pharmaceutical industry; aside from the effective restrain of increasingly fierce competition between them.

In addition the smaller manufacturers may be fundamentally reassured that they can and will successfully meet the future competition of the larger manufacturers, by the past experience of the pharmaceutical industry and its governing economics. For, in the first place, we all know that many of the larger manufacturers were smaller manufacturers, not so long ago; and that these manufacturers have made the most spectacular business progress, in modern times. Which is a situation characteristic of all American industry, broadly speaking. And, in the next place, the smaller manufacturers may rely on these economic facts. The first fact is that the field of valuable drug research is infinite, in scope and kind; and the smaller manufacturers may effectively work in this field, directly or indirectly, if they take full advantage of their opportunity to do so in their own business area and notwithstanding their less financial resources. The second fact is that the success of a pharmaceutical business (as in the case of every other business) otherwise depends on the individual ability exercised in it; the smaller manufacturer may possess and successfully exercise this

(*Continued on page 554*)

Industrial at

Alfred Barthel, Housekeeping Inspector for the pharmaceutical section, surveys scene he expects to improve. Signs on broom rack and waste can are part of his slogan campaign to get the individual worker's cooperation in housekeeping.

One of the biggest housekeeping jobs in the country is managed by a man. He is William Whitten, Assistant to Plant Superintendent in charge of Housekeeping at Lederle Laboratories Division, American Cyanamid Company. One of the world's largest medical research and pharmaceutical firms, Lederle employs over 4,000 people at its plant here. And there are over 150 buildings! Housekeeping problems arising from such a "household" will make any housewife shudder.

Big business has long been harassed by such housekeeping problems as peeling paint, trashy floors, broken windows, leaky valves, among many others. Responsibility for preventing these unsightly and often unsafe conditions is usually lost somewhere in the shuffle between safety, maintenance, engineering, and other departments, depending upon the particular organization.

A few years ago, Lederle's management decided it was time to establish this responsibility and do something about keeping the plant in constant good appearance. So the Housekeeping Department was created.

Other industries were becoming increasingly concerned about their housekeeping problems, and many of the nation's largest sent representatives to Lederle to observe the new department in operation. Not long ago 30 of this country's largest manufacturing firms met and formed the Industrial Sanitation Management Association, which is taking great strides to perfect industrial housekeeping techniques and spread them to other firms. Soon all manufacturing concerns, large and small, may have housekeeping departments, just as they now have safety departments.

Because of his efforts in this pioneer movement, William Whitten was named the first president of the Industrial Sanitation Management Association.

Lederle's management calls increasingly on the Housekeeping Department for solution of physical problems. Plant Superintendent H. M. Perkins, who oversees the entire Lederle area, often drives slowly along Jenner Place or Draper Way on a "birds-eye" inspection. He may send this kind of memo to Housekeeping:

"I noticed the following this morning . . . the only

The housekeepers are increasingly using floor sealing to improve appearance and sanitary conditions. Since sterile filling operations are to be conducted in these rooms, it is especially important to seal floors so no dust particles will be retained. A member of the housekeeping staff first used this method at Lederle in the rest rooms.

Housekeeping Lederle

A housekeeping inspector on a routine tour spotted this blackened door, and pointed it out to the department head responsible for the area. This high-pressure steam-cleaning machine, operating at 100 lbs. sq. in., sprays detergent with live steam. Manhole in foreground covers a two-story underground incinerator. Trucks dump refuse at this point.

unpainted catwalk . . . sticks out like a sore thumb . . . What is the attitude of supervision that lets paper bags pile up here! Let's get at the root of this thing!"

Despite management's active interest, only the steady, day-by-day vigilance of Whitten's six-man team can catch corroded equipment, faulty plumbing and slippery floor surfaces before they lead to trouble. Four "area men" patrol assigned sections of the plant on every working day. They examine everything from basins and bulletin boards to salvage boxes, pipe sleeves and stairway risers.

"Please" is their favorite word. A monthly "Plant Inspection Report", proposing changes in each building, prefaces each recommendation with "please see if . . ." or "please have . . ."

"You can catch more flies with honey," grins Alfred Barthel, Pharmaceutical Section inspector. "We word our reports that way because we want to be friends."

Whitten agrees, but points out that his department is increasingly mixing the voice of authority with its diplomacy. "We have to be prompt with such problems as odor (from stables, sludge or incineration), painting and cleaning. Sometimes that means we must act for a building supervisor."

Whitten and his men realize that housekeeping, finally, depends on every man in the plant. They may call on ninety regular janitors for extra duty, or consult plant engineers for technical aid. But the individual's pride, tactfully stimulated by the Housekeepers, is the soundest foundation for order.

Accordingly, work areas are evaluated on a point system. A zero-to-four point rating on twenty-five criteria gives the perfect housekeeper a total of 100 points. Among items on the check list: orderly arrangement, preservation of parallel and perpendicular lines, tool storage, drainage, ventilation (fume and dust removal), and care of equipment. Competition for these ratings is just the thing for plant housekeeping, according to Superintendent Perkins.

Friendly rivalries like the one between a plumber and a carpenter indicate the system is working. These two maintenance men joked with the electrician about

(*Continued on page 555*)

Equipped with high-pressure steam-and-detergent sprayers, these men are scouring poultry houses and brooders against the ever-present dangers of coccidiosis, intestinal worms, lice and mites.

PACKAGE MACHINERY COMPANY

ANNOUNCES THE NEW Thrifty LABELER

offering outstanding advantages

This continuous-motion, straight-line machine is one of the most versatile labelers ever produced. It will label containers of gallon size as well as small bottles . . . Containers may be wet, dry, hot or cold, odd shaped or with recessed surfaces. You still get a firmly sealed label because of the machine's unique *flexible pressure application feature*. Labels may be rectangular, round or fancy cut. Suitable for hand-feed or can be hooked up to filling and capping line. Moderately priced, high in operating efficiency, the new THRIFTY Labeler is ideal for those now labeling by *hand* or by *machine*.

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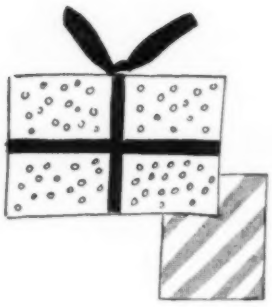


Packaging and Selling

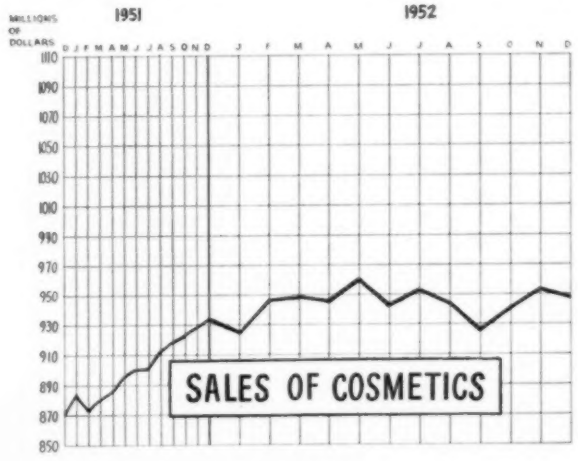
FIFTY MILLION DOLLARS MORE FOR DRUGGISTS

Almost all of the so-called revolutionary changes in retailing of the last few years have given the retail druggist a sharp feeling of being on the defensive. The growth of food super-markets, with customer visits far in excess of most druggists, self-service, one-stop shopping and the excitement of impulse buying all have given many druggists a feeling that an overwhelming new competitive force was being arrayed against them.

In many communities there has been good reason for this druggist uneasiness. These druggists have seen the nearby supermarkets add one department after another, in toiletries, candy, tobacco, magazines and so forth, all of which represented to the druggist a portion of his volume and any one of which might mean the breaking point.

The defensive measures which the druggist has used have not been inspiring. The effort of a few Chicago suburban drug stores to sell a low-price, low-margin product like bread seems about as effective as if the druggist had stuck his tongue out to the grocer. The noisy hullabaloo of the 16-page advertisements and promotions, in the best tradition of Hadacol in its heyday did its best to eliminate any feeling the public might have for the druggist as a professional man and reduced the drug store (sales wise) to the level of the grocery store in the consumers mind—a place in which the drug store would have little chance.

Retail sales of cosmetics for the twelve months ended with December 1952 totaled $949,907,000. This compares with $953,974,000 for the twelve months ended with November 1952 and with $934,065,000 for the twelve months ended December 1951.



It is important to study and experiment with self-service, or self-selection, and to find out its possibilities and limitations for the drug store, as McKesson & Robbins are doing in their new experimental drug store. But it is hard to believe that this holds too much promise for the druggist and his survival as a retailer rather than as an ethical prescription store. The products which are best adapted to self-service, that is the pre-sold, low priced utility products are the very ones which super-market experts are studying and adding to their store; the grocer still holds a margin of at least 4 to 1 in customer visits. Why then must the druggist, in his competitive fight for retail business, play on the opponents' home grounds?

The answer, of course, is that he shouldn't. If all he can do is to imitate a grocery store, then he had better count four years of college as a sad waste of time and money.

It has been said many times before that the druggist's great strength is his professional reputation in his community. In that he has an impregnable store position as compared to the grocer or any other retailer, providing he does not impair or dissipate this professional reputation by imitation, or by losing the professional characteristics of a drug store.

The druggist today has departments where it would seem absurd to contemplate any possible grocery store competition—sick room supplies, for instance. Are there other departments capable of professionalizing so that the drug store can attain, in the consumer mind, a preferred position in shopping? We think there is one department, worth conservatively fifty million dollars extra a year for druggists—a department which should belong to the druggist. That department is dietetic foods.

Before giving a few brief facts to show the amazingly swift growth of these specialized foods to an astounding annual volume, lets just briefly look at the reasons why

the druggist should feel that this is his own special province.

1. To a large extent many of these diets are under supervision of the doctor. They are part of treatment—low sodium diet, for instance.

2. To a large extent, these diets also include supplements—vitamins, tonics, etc., on a doctor's prescription.

3. Many of these dietary products require intelligent informed selling of a professional character. To the grocer a sodium ion might just as well be a horseshoe. The druggist has the educational background for informative, helpful selling of these foods. It can be assumed that he will have the full cooperation of doctors.

The dietetic food business is far larger than most people believe. While many of the chain supermarkets have a a hit-skip-and-miss section, mostly a limited selection of canned goods, it is the department store which has a food department, which has really developed a specialized dietetic food section with informative, trained selling behind the counter. Actually, the distribution available today for dietetic foods is very limited and very far from making these foods available to most people who need them.

Even more important, distribution is too limited for acquainting both doctors and patients with the surprisingly wide variety and choice of foods that are available.

The principal diet today is of course the low-calorie diet for weight reduction. Many people on this diet, because of some condition such as a heart ailment, are under strict supervision by their doctor. But it is really startling today to observe repeated indications that the war on excess calories is becoming a principle American occupation and is alarming many big businesses.

The Department of Agriculture blames nation-wide dieting for declining butter consumption over a period when Americans have noticeably improved their eating standards. During 1935-1939 the annual average consumption of butter and margarine was 19.4 pounds. Last year it was 16.9 pounds. Butter alone dropped from 16.6 pounds to 8.8. pounds.

The American Sugar Institute is advertising in a calorie defensive program that three teaspoons of sugar equals one-half a grapefruit. Bacardi Rum proudly announces that a Bacardi highball has less calories than one egg. French brandy interests are reported about to start publicity showing that brandy—70 calories an ounce—will put on less weight than any other distilled alcoholic drink. And Pepsi-Cola as well as some leading beer brands are hastening into print to join the low-calorie aristocracy in foods and drinks. Even some men's luncheon clubs and leading hotels are coming under the calorie influence. Menu's where executives of Jones and Loughlin Steel Corp. and Westinghouse Electric Company eat in Pittsburgh have listed after each food item the number of calories—a clear warning in the case of strawberry sundaes which are listed as 400.

The point about this one major diet is that it is clearly a major tidal trend in consumer habit and buying. It is closely associated with treatment and medication. While many standard canned foods and vegetables, soups and fruits with a low calorie count (specially packed for this purpose) may or may not fit into a drug store department, hundreds of specialties in the field certainly can. Today the low-calorie seeker can find cakes and cookies, desserts and candy and a wide variety of foods specially packed for a low-calorie diet. Surely there is room here for specialization.

The low-sodium diet is prescribed for a number of different conditions. In a recent two-page spread advertisement, Continental Can Company, estimates that for 1953 some 240 million cans of low-sodium fruits, vegetables, meats and fish will be prepared. In very few communities today can the person on a low-sodium diet find even a fraction of the variety of foods prepared for this diet in any store. What retailer will eventually win a reputation and the clientele in this therapeutic field, the grocer or the druggist? The specialized dietetic food department today makes available for doctor and patient a wide variety of fruits, vegetables, meat and fish in cans, and also candy, cakes and cookies, salad dressings, etc. These foods are prepared for such diets as Diabetic, Low fat or Cholesterol, the high and low calorie diet, low sodium diet, the Bland or Low residue for ulcers and colitis, etc. and the high residue foods for treatment in chronic constipation. The practical considerations which the druggist must face, such as lack of space, need not prevent him from working with local doctors to at least make an initial start in a restricted specialized department.

It would also seem that this specialized market, so professionally suitable for the druggist would attract the earnest attention of the wholesalers and deserve some real study and research by them. As a market prospect, in weight reduction alone, it is estimated that 30,000,000 people in the U. S. are overweight an average of 16 pounds.

The dietetic food business today is substantial in size, large and varied in number. But they don't yet know where to go. Distribution is inadequate and because of this, both public and the doctors are very inadequately informed as to the great variety of these specially processed foods to make a diet more agreeable and more controllable. It would seem that organized leadership by drug wholesalers to study the economics of such a department for the retail druggist, to find and classify the sources, would be a positive action for plus volume badly needed by druggists.

To say that there are fifty million extra dollars annually that the retail druggist, with help and leadership could win, is conservative.

Dangerous Heresy

Here's heresy of the worst kind and so dangerous that the entire advertising and selling fraternity should rise in mass and destroy these people.

The United Fresh Fruit and Vegetable Association makes the unheard-of claim that no conclusive evidence has yet been turned up from which any generalization can be made in favor of or against refrigerated display of the product. These people said with an apparent complete unawareness of the dangerous implications of their statement that "it is not the display rack but the merchandise and the merchant that make the sales.

Drug Sales

1952 prescriptions accounted for a dollar volume of $990,164,000. The dollar volume represented 419,-447,000 prescriptions, 40 per cent of which were refills.

Sheffield tubes

Breck Cream Treatment for Beautiful Hair, is one of the many fine hair preparations offered by Breck. Quality of product is matched by the quality of the container—Sheffield Collapsible Tubes. Product and container alike are the result of generations of leadership. Compare for yourself this matchless excellence of printing on tube metals—an achievement of craftsmen schooled in Sheffield's century-long tradition of producing only the finest. For gratifying sales *results*, we urge you to order all your collapsible tubes from *Sheffield.*

Like a display leader for your product? Call on your nearest Sheffield Tube representative for free catalog, samples, quotations.

THE SHEFFIELD TUBE CORPORATION

Home office—New London, Conn.
Sales Offices—New York, Chicago, Los Angeles

She's in the market . . .

Empress molded closures give your product sales appeal . . . convenience.

—Then the closure helps her pick your package

Some things just make people reach for them. They look so fresh, so clean, so attractive.

It's that way when your package is right from top to bottom. The right closure is the finishing touch.

So if you want a package with personality—an efficient package that truly represents your product and keeps it up front in sales appeal, give it the sales plus of a *sales*-minded closure.

CLOSURE DIVISION — **OWENS-ILLINOIS GLASS COMPANY**

TOLEDO 1, OHIO • BRANCHES IN PRINCIPAL CITIES

Prescriptions were filled by 47,628 drug stores operating prescription departments, of which 3,686 were chain units, while 43,942 were independently owned. All this, according to the annual prescription survey conducted by the "American Druggist."

Lord Save Us

Here's a tip from London which may indicate things to come in this ever fertile and intriguing industry of ours.

Over there, they have developed a permanent waving machine for men which has been receiving considerable editorial publicity and a spot in a newsreel which has already been showed in 1,000 cinemas.

The machine is called the "Clubman" and W. E. Rigler, general manager of Callinan Giles, is quite sure that they are paving the way for a new fashion for men. He is quoted as stating that he believes that 10 per cent of the men are potential clients for permanent waving.

Advice for Dr. Kalish

Schenley Laboratories has an old friend of ours juggling with their beakers and for old-time sake we are glad to give him some inside advice.

According to a publicity release, Dr. Kalish has been making some unpleasant-tasting Schenley drug preparations pleasing in color, flavor and odor. Not long ago, to continue the quote, Dr. Kalish was confronted with a new cough compound with such ingredients as calcium cresol sulfonate, ephedrine sulfate and chloroform. The color and taste were something less than tempting. After weeks of experimenting with coloring and flavoring agents, Dr. Kalish produced a formula that gave the cough mixture a pleasant aromatic flavor, something like anisette and a bright emerald color. The product recently introduced ethically is Crephex. We intend to try it.

As we recall, Joe, when you were ferreting out chemical news scoops in this office from obscure journals and foreign publications, et al, there was nothing wrong with your taste. We're speaking of course, in generalities. This particular cough medicine you've just tuned up to a palatable nip sounds reasonably good, but from personal experience there is a lingering doubt that this particular flavor can carry this product to the full market potential it might deserve. In other words, that added plus, so much appreciated by sales departments.

Some years ago we had a nasty post-nasal drip which kept us up nights, with regrettable side effects. Finally we went to our doctor who wrote a prescription for a cough syrup which soon became justly famous in our community and which made this druggist a relatively wealthy man. This was a bulk syrup. We could never get the druggist to betray his source. But it was, without question the most delicately delicious cordial ever invented by monk, alchemist or flavor expert. It was possible to detect a little apricot, some slight cherry, undoubtedly a little honey. But to these traditional flavors something so exotic, something so exquisite had been added that with each sip one had the feeling of a new exhilarating experience in life.

So delighted were we with this new cough syrup that within a few days of its discovery we threw a little cordial party for intimate friends. It was a great success. Soon we were arranging to get cough syrup by the gallon and an old-time cocktail formula, invented during prohibition when apricot cordial was a house specialty, was a tremendous success. This formula, which you may use, if you ever get a predominant note of apricot in one of your products is: one part cough syrup, three parts medium heavy cream, six heavy slugs of gin.

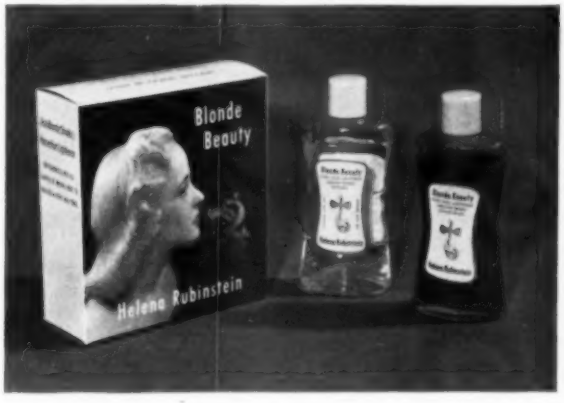
Of course, not being an internist we can't be sure just how your product would lend itself to research along modern cocktail lines. But it must be admitted, we are fascinated by the possibilities of the chloroform at a nice intimate party.

The point of all this, Joe, is don't overlook the thing beyond, as the advertising men say. Use research to lift your product, not only out of the competitive rut, but in accordance with the higher principles of modern merchandising as in tooth paste, cereals and most packaged goods, to a point where its functional purpose is a mere foundation for a much wider and nobler human appeal.

Baltimore Press Wins Again

For the third straight year The Lord Baltimore Press has won the No. 1 award for the technical superiority of its multi-color printing of cartons.

After twice winning with carton entries from the food field, Lord Baltimore won this year with the "Blonde

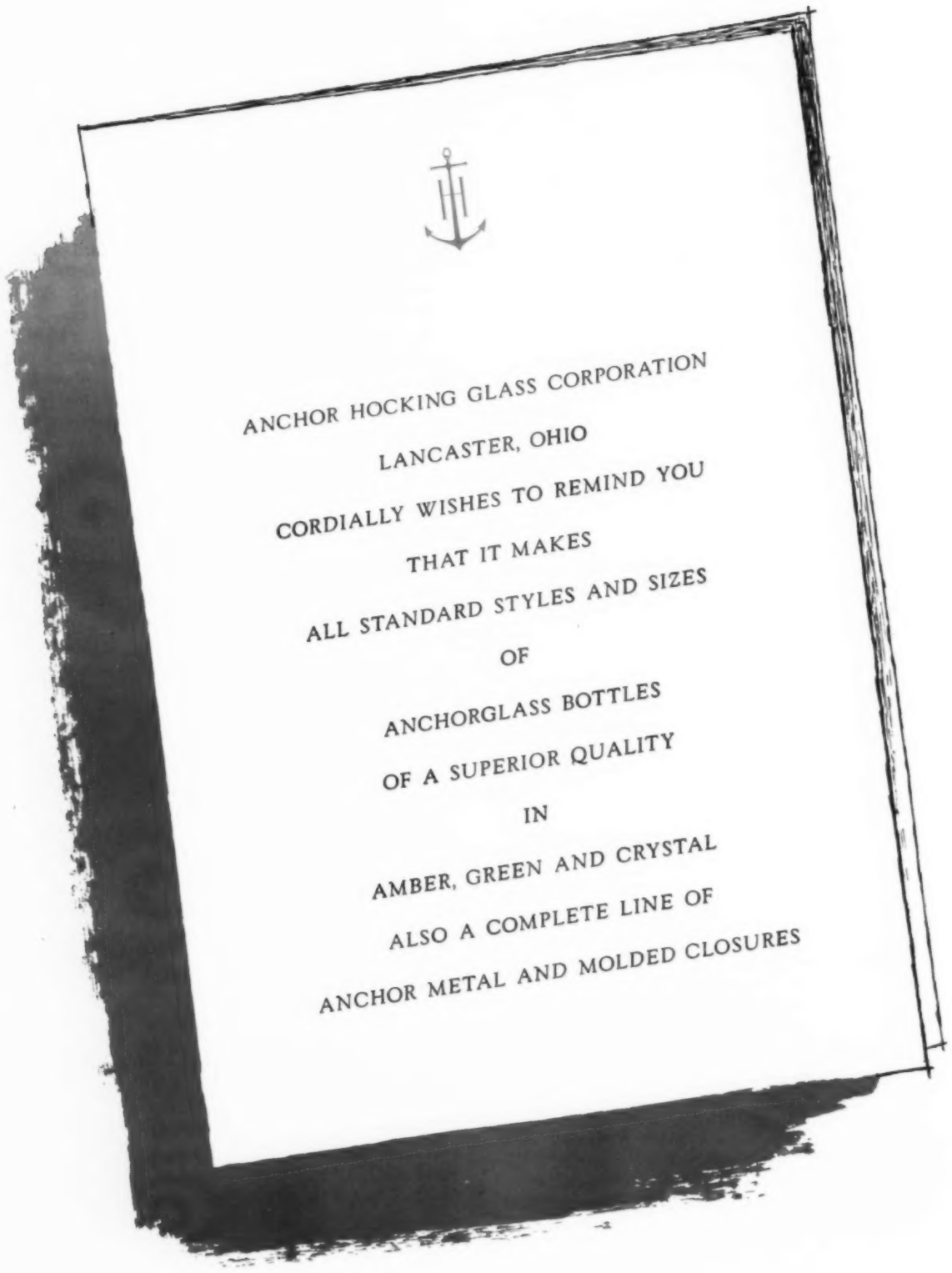


Beauty" hair rinse carton, produced by its exclusive "Fidel-i-tone" ultra-fine-screen process in six colors and varnish for Helena Rubinstein, Inc., leading makers of toiletries and cosmetics.

In other categories devoted to determining "general superiority according to end use" Lord Baltimore won two honorable mentions in the cosmetics section with Revlon's "Fire and Ice" nail polish carton and Avon's "U. S. Male" men's toiletries cartons.

Frequent Repackaging

One of the packaging experts says that he detects the trend toward the "magazine cover" type of design on a package. This means a standard "masthead" with constantly changing illustrations, which will lure the customer for an impulse sale and which will also pinch hit for the lack of a sales clerk in doing a sales job.


ANCHOR HOCKING GLASS CORPORATION
LANCASTER, OHIO
CORDIALLY WISHES TO REMIND YOU
THAT IT MAKES
ALL STANDARD STYLES AND SIZES
OF
ANCHORGLASS BOTTLES
OF A SUPERIOR QUALITY
IN
AMBER, GREEN AND CRYSTAL
ALSO A COMPLETE LINE OF
ANCHOR METAL AND MOLDED CLOSURES

"Frequent repackaging is a competitive necessity because of the impulse factor in self-service shopping," according to this man.

Publishers' Right

We now have a court decision that a publication can refuse to accept advertising on any basis that seems desirable to the publisher. In a memorandum by a Justice of the New York Supreme Court who has stated that a newspaper "is not a public utility" and is, therefore, free to reject advertising intended for publication.

Maybe Time for a Pause

There is a tide that flows not only in the affairs of men, but in just about everything that men do including the fads, fancies and enthusiasms in the business world. We do not think that retail sales by automatic vending machines are in any sense a fad or a fancy, but we have thought for sometime that the super-enthusiasm which is being poured into this particular industry is part of the super-enthusiasm which has accompanied the build-up for our "present retail revolution" as evidence in impulse buying, self-service, one-stop shopping, suburban stores and a few other basic changes that are now taking place in distribution.

The automatic vending machine business has been one of the dynamic industries of the last several years. Its growth has been phenomenal and there has been almost no limit to the scope and variety of products which some people have tried to sell through the vending machine.

Nobody can take away from the vending machine the fact that it sells at least 1½ billion dollars a year of merchandise, that it sells about one out of every 6 packs of cigarettes, one out of every five candy bars, about 1/5 of all soft drinks and that vending is making substantial progress in the distribution of hot and cold drinks, milk, sandwiches, soup, ice cream and so forth. Like self-service the vending machine has an enthusiastic group of supporters that see no limits to its expansion. The supporters believe that if self-service is sound and economical then automatic vending is even sounder and should in time replace self-service. Their current argument is that the vending machine can be placed anywhere convenient to the shopper, such as in a concentrated apartment house or suburban center so that the shopper need not do all the work of transporting herself to the store and then transporting herself with the merchandise home again and that in addition to this the machine works for 24 hours a day and knows no union.

This is the tide that has been flowing so fully and freely for ten or more years.

Just about three years ago, there was a whisper in retail circles that a large chain of department stores was so interested in automatic vending machines that it was discussing with the industry a number of designs, and the report went about the industry that this group would order up to 50,000 vending machines when the designs had been satisfactorily settled. This rumor sort of faded out of the picture but just about the time of that rumor, a leading Boston department store installed a battery of 25 vending machines in a special room in the new Greyhound Bus Terminal which had just been completed. This U-SERV-U unit was widely publicized in the business press as the first authentic test of the vending machine. The reason for this was that the machines were located in a place of high-traffic density that promised in effect a small 24 hour service retail store without any sales help. Also they departed from the normal range of products sold through vending, that is they disregarded the cigarette, candy and standard products and sold an assortment of things like custom made gloves, jewelry, toys, handkerchiefs, etc. In other words, the kind of merchandise that, in the best judgment of this leading and most successful Boston department store, the people at this bus terminal would want available for quick convenient purchase.

A little later a similar retail unit of 24 machines was established at the National Airport in Boston.

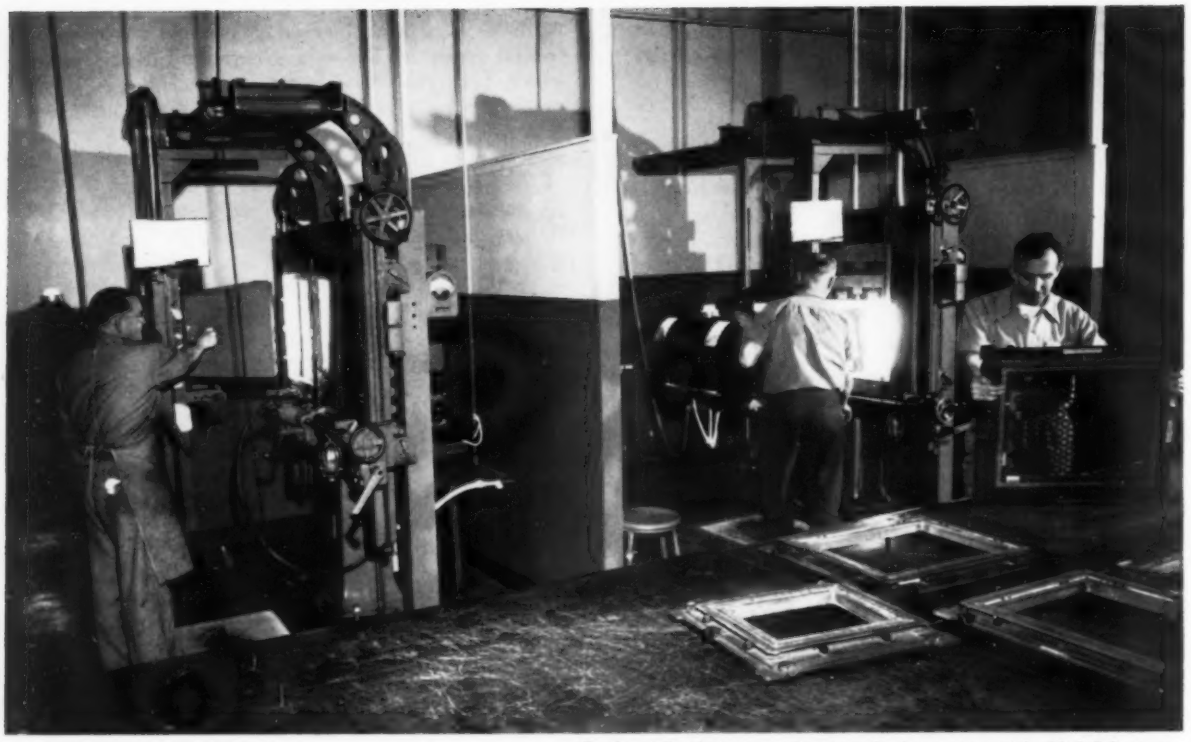
So far as we have seen there has been no publicity in the business press discussing the reasons why these two ventures in automatic machines, selling under apparently very favorable circumstances, should quietly be abandoned and fade from the business scene.

We do not mean to infer that the failure in this particular case means that the vending machine has already found the limits of its expansion. That would be a typical un-American concept of business. Certainly our experience, particularly during this last era, proves that research whether it be in the laboratory or the market place, makes it impossible for any business man to set a limit on expansion or the usefulness of a product or a business.

What we are really trying to say is that we think both automatic vending machines and self-service have made such a rapid expansion that they are about due for a period to consolidate before they are ready for another era of expansion.

Rubinstein Skin Serum

Skin Serum, introduced in France several years ago by Helena Rubinstein, is now being imported into the United States for the first time. Neither a cream nor a lotion, but a full-bodied fluid, Skin Serum is a protein-rich mixture of blood serum and amniotic fluid derived from animals. Sealed in laboratory-fresh vials, this preparation is packed in such a way that just enough liquid is received in each vial for one complete treatment.



Continental's photo-compositors transfer images to metal with infinite care

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Continental people are as anxious as you are to have your proprietary product look its Sunday best. When you bring it to us for a lithographed metal container, we treat it like royalty.

That goes in our big camera rooms where the pictures and text of your label design are captured on film. And again, in the photo-composing rooms where the film image is transferred to a metal printing plate. Our people have the brains, the equipment — and the interest in your product — to make plates that pick up the tiniest detail of design and register perfectly when colors are applied on high-speed presses.

For years we've worked for some of the biggest names in the toiletries-drugs field. We've built up a long-list of helpful services, performed by designers, artists, lithographers, engineers, package-machinery specialists and others. Let us show you how we hand-tailor these services to your particular needs.

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EASTERN DIVISION
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CENTRAL DIVISION
135 So. La Salle St., Chicago 3

PACIFIC DIVISION
Russ Building, San Francisco 4

Doings

Jamieson Pharmacal is undertaking a promotional campaign to acquaint the pharmaceutical and medical profession, and consumers, with its new and improved Crystallose. This pure crystallose sweetening agent is non-caloric and about 500 times as sweet as sugar. Each crystal is equal in sweetening power to approximately one lump of sugar or quarter-grain saccharin tablet. The total number of crystals in each one-ounce regular bottle is equivalent to about 2500 of these tablets.

White Laboratories has prepared Dubiotic Intranasal, a potent antibiotic and decongesting nose drop, which combine the advantages of the broad antibacterial range of bacitracin-neomycin with the highly effective and comparatively nonirritating vasoconstricting action of phenylephrine; and Dubiotic Troches, which combine these two antibiotics with the long-lasting surface analgesic, Propesin.

The Wm. S. Merrell Company, as an added convenience for druggists, has announced new package sizes for its antispasmodic, Bentyl and Bentyl with Phenobarbital. Bentyl Capsules, formerly packed 50 to a bottle, are now furnished in bottles of 100. Bentyl Syrup, formerly 8 - ounce bottles, is now available in pints. Capsules in bottles of 500 and Syrup in gallons in both forms will continue to be offered.

Materna Products Inc. has prepared a special cream for relieving skin discomfort during pregnancy. It is designed to help minimize the uncomfortable, tight itching sensation so often complained of during pregnancy.

Upjohn is now offering Mycitracin, a non-irritating and bland ointment containing neomycin and bacitracin. It is indicated in the treatment of impetigo, barber's itch, infectious eczematoid dermatitis, infected ulcers, boils and other superficial pyogenic infections of the skin.

Upjohn has announced a new dosage size of Cortisone Acetate compressed tablets of 10 mg. each. Bottles of 24 tablets sell for $3.60.

Coty's Parisienne Vanity, the handbag "gadget," is being introduced for sale with a box of "Air-Spun" face powder. In a white miniature hand-mirror-shaped plastic container is a generous-sized "Cream Powder" Compact. The handle contains a full-size new Indelible and vitaminized Sub-Deb Lipstick.

Grant Chemical Co. has announced Desplex Tablets, combining highly micronized, triple crystallized diethylbestrol with vitamin B complex, including folic acid and vitamin B_{12} plus C.

Burroughs Wellcome is distributing Pyrimethamine, a potent antimalarial, which sterilizes the tissue forms of P. vivax and the gametocytes of P. falciparum. Neither of these actions, according to the company, has been obtainable with other conventional suppressants in non-toxic dosage.

Shulton has designed a compact unit for counter display of its Stick Colognes. It is made of a rough-hewn block and base cut from one piece of styrofoam. An ice-blue metallic foil in the background sets off the blue, green and gold metallic showing through the carved polyethylene cases of Early American Old Spice, Friendship's Garden and Desert Flower fragrance solid sticks.

Bristol Laboratories has prepared Panbiotic, a combination of Crystalline Procaine Penicillin G, Crystalline Potassium Penicillin G and Dibenzylethylenediamine Dipenicillin G plus a suitable buffering agent in a dry form. This combination provides high initial blood concentrations and retains prolonged action of repository preparations in low volume of injection. Panbiotic is supplied in one-dose vials, containing 1.2 million units and five dose vials containing 6.0 million units

Sharp & Dohme has released Melozets, a new graham-cracker-like methylcellulose wafer for the aid of dieters. When taken with water, the methylcellulose a hydrophilic colloid, swells up, increasing the bulk and giving the patient a satisfying feeling of fullness.

Abbott is offering two new products, Lotocreme Massage Lotion, a non-greasy body rub which gives a mild, cooling sensation to the body and leaves the skin with a clean, refreshed feeling; and Covicone Cream, a special plasticized combination of silicone, nitrocellulose and castor oil in vanishing cream base. The cream

Faster Capping

For EXTRA PRODUCTION *on your high-speed machines*

If cap breakage is limiting the output of your high-speed lines, better try Armstrong's "Hi-Tork"* Caps. These rugged caps are specially designed to take the abuse of high-speed equipment. They'll help reduce breakage and step up your line speeds. Here's why:

"Hi-Tork" Caps are designed so that dome, threads, and skirt each take its proportionate share of the capping impact. Extra plastic has been added at points of greatest stress. And the recessed design eliminates projections that could chip or cause breakage.

Their new thread design also increases the contact area to give a better seal with less strain on the cap. Liners are firmly adhered—can't fall out.

Your Armstrong representative will gladly help you test-run "Hi-Tork" Caps on your own lines. Ask him for details or write Armstrong Cork Company, Glass and Closure Div., 1904 Prince Street, Lancaster, Pennsylvania.

*T. M. REG. APPLIED FOR

ARMSTRONG'S "*HI-TORK*" MOLDED CAPS

Doin's ... (CONTINUED)

forms an invisible plastic-like film that acts as a physical barrier against sensitizing external agents, and is used as a protection for the skin from occupational dermatoses.

Mallinckrodt Chemical Works has converted its entire one-pound and ¼-pound line of dry Analytical Reagents from round to flat-sided bottles. Five of these new Stormor bottles can be fitted into the same space that was formerly occupied by four equivalent-volume round bottles.

Lever Brothers has introduced Lifebuoy Brushless Shaving Cream as a companion to the Lifebuoy Lather Shave Cream.

Smith, Kline & French Laboratories have introduced Benzedrine Sulfate Spansules for use in depressive states in alcoholism, post-encephalitic parkinsonism, and for the control of appetite in weight reduction.

George A. Breon's brand of sodium dehydrocholate injection has been given the trade-mark name of Dilabil-Sodium, and the firm's dehydrocholic tablets are now being marketed as Dilabil-Tablets.

Ciba has announced new package sizes for Antrenyl Bromide; an anti-cholinergic agent indicated as an adjunct in the management of peptic ulcer and spasm of the gastrointestinal tract. The 5 mg. tablets are sold in bottles of 500 and 1000.

Nestle-LeMur Co. has designed a space-saving merchandiser that combines full assortment of the two related products, Colorinse and Colortint, in a new counter display. This new point-of-sale unit is designed with a hair-color selector chart showing a range of 10 rinse-shades in full color. The unit contains 18 packages of Nestle Colorinse in the 25-cent size and 18 packages of Nestle Colortint in the 29-cent size, both in assorted shades.

Calumet Mfg. Co. is now distributing their original purse-size Swivelpak container in the new large King size, with a one-ounce capacity. This is also a propel-repel, airtight, shrinkproof case in which solid cologne, deodorants, creams or lotions can be poured directly into the case, eliminating the necessity of molding or foil wrapping. This container comes in all colors or combinations of urea or melomene.

Merck has announced a new formulation of Cortone, called Ophthalmic Ointment of Cortone Acetate with Bacitracin. It combines the anti-inflammatory activity of Cortone with the antimicrobial activity of bacitracin against susceptible organisms.

Helen Neushaefer has developed three new lipstick and nail polish fashion shades, Gaiety, Joy and First Lady Pink.

Winthrop-Stearns is now distributing Primaquine Diphosphate on a nationwide basis to the medical profession, hospitals and the drug industry. It is supplied in tablets of 26.5 mg., equivalent to 15 mg. primaquine base, in bottles of 14 and 100 tablets.

Winthrop-Stearns is offering its Neo-Synephrine hydrochloride in a 15 cc. plastic squeeze bottle for administration as a nasal spray.

Shulton has introduced its Old Spice Smooth Shave in a pressurized container which matches the other Old Spice grooming products. The closure, an original Shulton idea and design, insures locking and non-leakage while traveling.

Rystan Co. has introduced two products, Prophyllin Powder, for the preparation of wet dressings, and Prophyllin Ointment, both the treatment of acute dermatoses and infections. They combine water-soluble chlorophyll and sodium propionate.

Hynson, Westcott & Dunning recently introduced Lactinex Tablets, for gastro-intestinal disturbances, particularly diarrhea, including those resulting from antibiotic therapy. They are supplied in bottles of fifty tablets.

Helene Pessl has a new bubble-bath dispenser for small fry, called Bubble 'N Soap, a newcomer to the Little Lady Toiletries for children. An added feature is the built-in soap dish at the top which holds a cake of the Little Lady Castile Soap. Refills of the powder are available in packages of 20, the original number in the dispenser.

Headliners again in 195

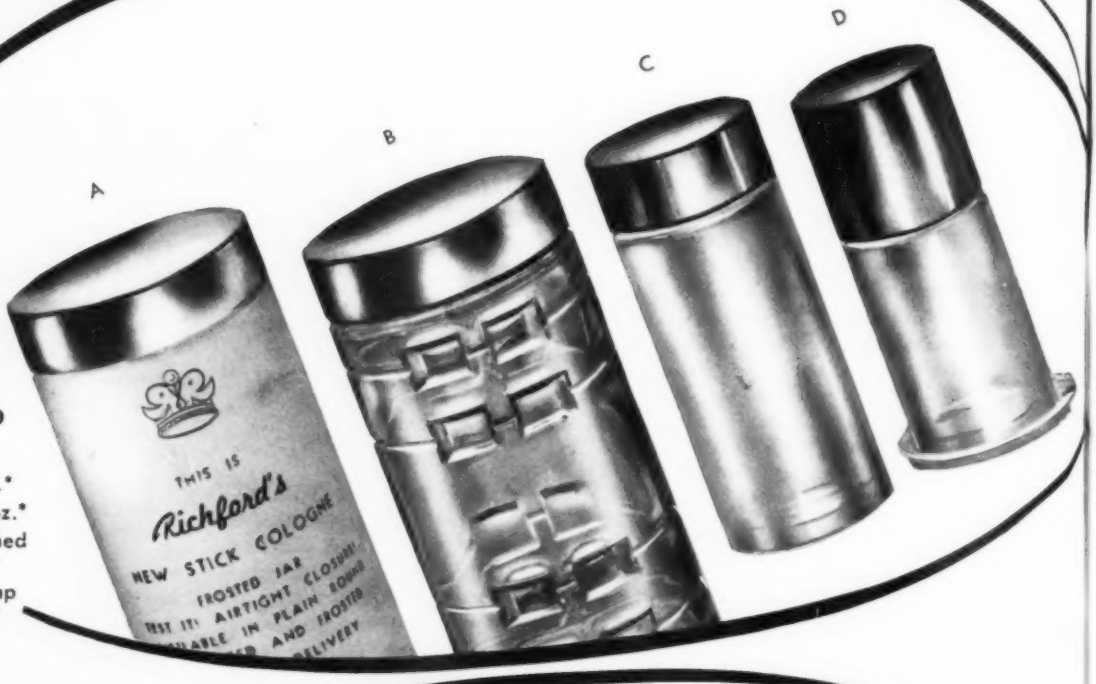
STICK CONTAINERS FOR —

COLOGNE · DEODORANT
SOLID HAND LOTION · AFTER SHAVE

In Glass

WITH HIGHLY-POLISHED GOLD TONE CAPS

A. B48 PLAIN, 2-2½ oz.*
B. B48 FANCY, 2-2½ oz.*
C. B32 (Threaded polished brass cap), 1 oz.*
D. B31 (Polyethylene snap cap base), ¾ oz.*

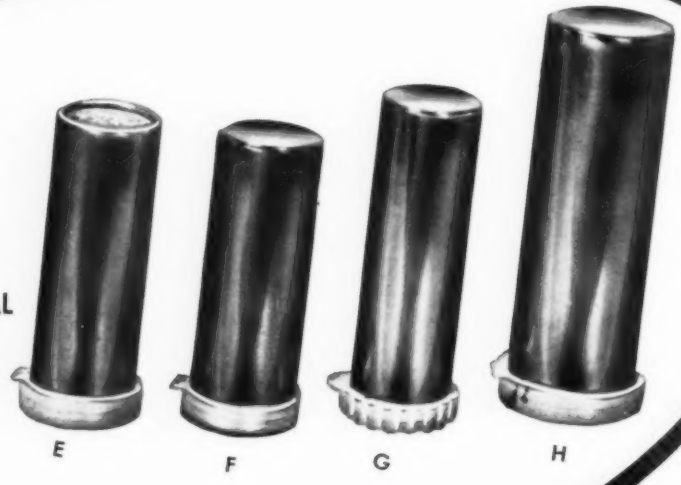


AND THE **NEW**
PURSE SIZE STICK CONTAINERS

In Metal

HIGHLY-POLISHED GOLD TONE, WITH POLYETHYLENE SNAP CAPS FOR TIGHT SEAL

E. EF292 (Push-up with foolproof push-up seal), ½ oz.*
F. TF291, ½ oz.*
G. AR284, ½ oz.*
H. LF293, ¾ oz.*



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CORPORATION

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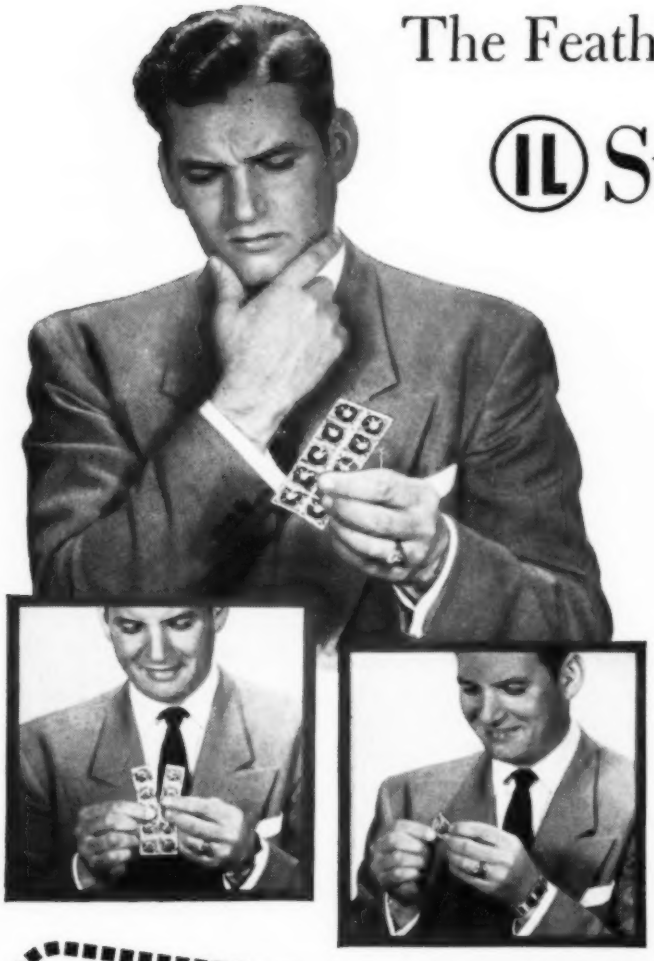
Acceptance is Convenience

Nowhere can you get it, except with The Feather-Light Tear of

(IL) Super-Sealtite*

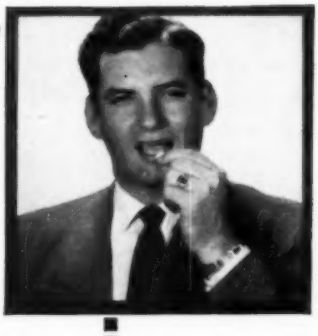


Test the tear of this fine new package—it separates easily, cleanly and in a straight line—no other package can give you this wonderful convenience.

Then think for a moment about those people in a hurry, taking the prescribed dosage—a bit irritated before they start—resentful of the necessity for taking medicine and anxious to do it as inconspicuously as possible. Then the tear—first to separate a unit, then to open the pocket. Give them (IL) Feather-Light Tear—your product packaged by Super-Sealtite. They can say "How Easy—How Easy—How Easy to Take"—and never forget that yours is the product that gives them no trouble.

By this simple method you can gain priceless good-will, preference for your product. Test (IL) Super-Sealtite yourself—it is the only one that gives you the convenience of Feather-Light Tear.

* PATENT PENDING



Danger!

Good unit packaging must provide-

Feather-Light Tear (not just a series of pin-point perforations).

Double tear notches—on opposite sides of each pocket.

Complete Protection—attained through selection and adaptation of the right packaging material for your product.

Easy Adaptation of package to varying product sizes, dosage requirements and new package design.

If you are not getting these features You Are Not Getting Your Money's Worth

IVERS (IL) LEE CO.
UNIT PACKAGING
215 CENTRAL AVENUE NEWARK, NEW JERSEY

CREATORS OF SUPER-SEALTITE—THE PACKAGE THAT NEVER STOPS SELLING

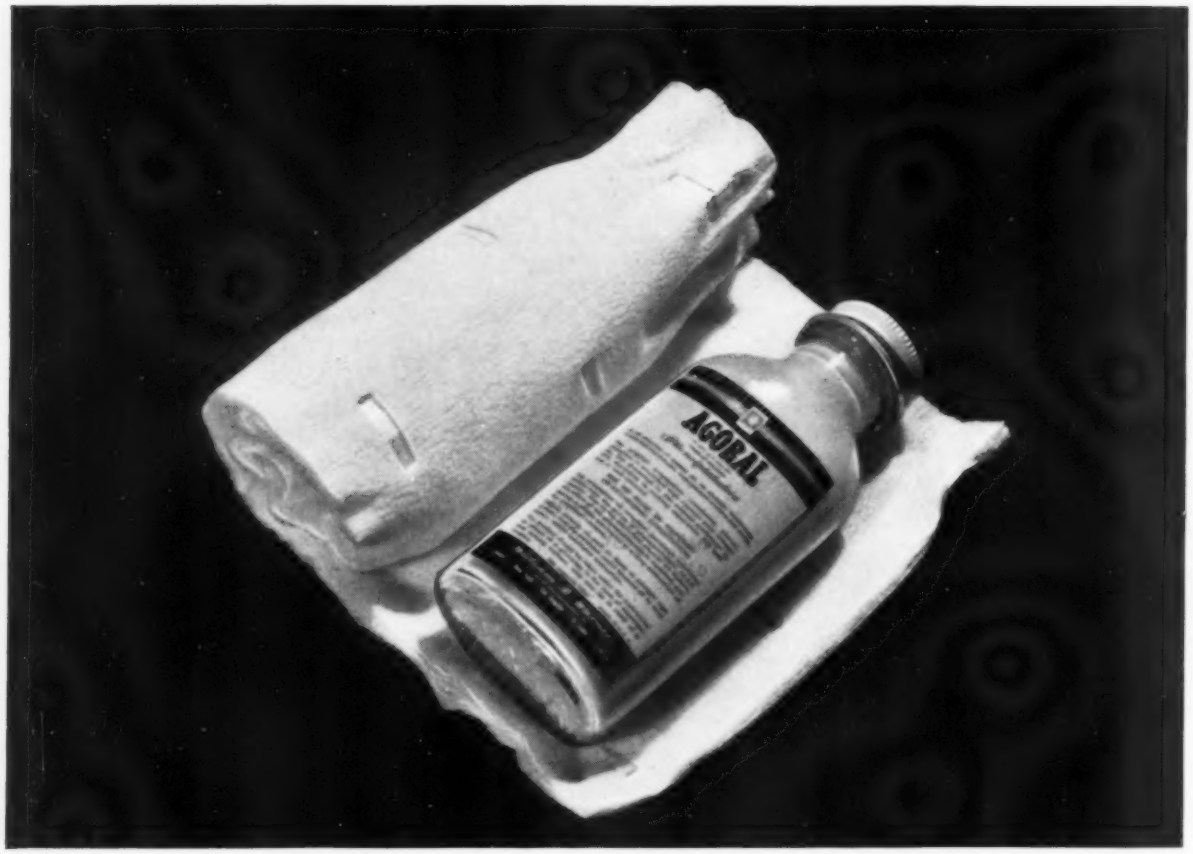


Photo courtesy William R. Warner Division of Warner-Hudnut, Inc.

Custom Protection

—the safe, smart way to package pharmaceuticals

Shock, vibration, moisture . . . *all* of these hazards cause great losses to manufacturers each year. Yet many companies—making many varieties of pharmaceuticals—have found the change to *custom protection* with Kimberly-Clark Interior Packaging—KIMPAK,* results in faster, more streamlined packaging operations, and a virtual end to product damage in transit. KIMPAK is soft, highly comformable, and easy to apply as wrapping paper. It will absorb up to 16 times its own weight in moisture within 30 seconds, and is widely used as absorbent packaging material in mailing liquid samples to physicians. Regardless of whether you package pills, tablets, capsules—liquids in bottles, jars, tubes, vials or ampoules—KIMPAK can be "tailored" to your particular needs. For information, write to Kimberly-Clark Corporation, Dept. J-43, Neenah, Wisconsin.

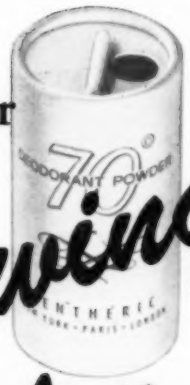
KIMPAK INTERIOR PACKAGING

A Product of **Kimberly-Clark**

*REG. U. S. & FOREIGN COUNTRIES

Today's Modern Sampler

Cross Swing Sifter Sampler



MADE IN LARGE SIZES, TOO

So good for sales! So easy to fill!

In the face of current selling conditions, distribution of product samples is rapidly becoming a necessity. And these Cross round miniatures provide the modern answer for the perfect sampling container.

Dressed as an exact replica of your full size container, patented Cross Swing Sifter Samplers are sure-fire for sampling all sorts of powders such as cosmetics, food, drugs, pharmaceuticals and anything else that can be dispensed through a shaker or a sifter.

LOW COST FILLING

Almost any standard filling equipment can be used to fill Cross Samplers. Just fill the inner section, and then slip the outer part over it. Then a simple twist of the top, and your product flows freely.

Ask for a representative to show you samples and discuss your problems.

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Crown Closures assure trouble-free application. Because Crown Closures are continuously tested and checked during their manufacture, they are unexcelled for precision and uniformity. This means smooth, untroubled action on production lines.

Crown Closures seal dependably. The special features of Crown Closures, such as the famous Deep Hook Thread on Screw Caps and scientifically selected liners, mean sure protection... no matter what type of product you pack.

Crown Closures have the features consumers want. Today's consumers want protection *and convenience* in the closures on the packages they take home. Crown Closures answer their demands. They can be removed easily . . . they re-seal tightly . . . and they protect the original quality of the product.

Crown's Laboratory Service

Crown maintains two laboratories. One for research and development, the other as a customer's consulting service. The services of the latter are available without cost to help packers select the closure and liner best suited for their individual products.

Crown's Design Service

Customers of Crown may use without cost the services of a comprehensive design service. New designs will be created or adapted from present labels or trademarks.

CROWN CORK & SEAL COMPANY BALTIMORE 3, MARYLAND

World's Largest Makers of Metal Closures

The bottles in our new 439 line are thoroughly practical as well as attractive . . . ideally suited for use both at home and traveling. They can be supplied plain or with fired-on ceramic labels. Available from stock in 1/2, 1, 2, 4 and 8 ounce sizes.

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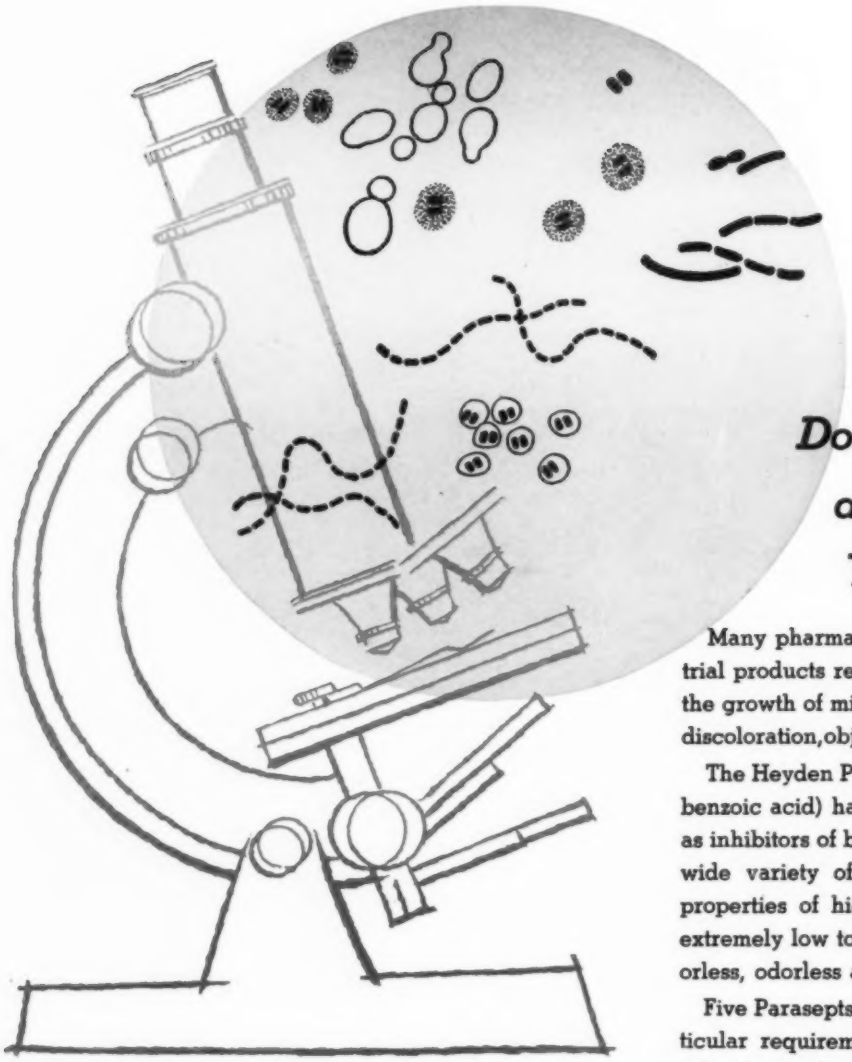

Don't Let Bacteria and Fungi Spoil YOUR Product!

Many pharmaceuticals, cosmetics and industrial products require a preservative to prevent the growth of microorganisms which may cause discoloration, objectionable odor or deterioration.

The Heyden Parasepts (esters of parahydroxybenzoic acid) have long given valuable service as inhibitors of bacterial and fungal growth in a wide variety of products. They combine the properties of high effectiveness, stability, and extremely low toxicity, in addition to being colorless, odorless and practically tasteless.

Five Parasepts are available to meet your particular requirements. Research has shown the advantages of using a combination of two or three esters, which gives better protection against microbial contamination than any one ester.

HEYDEN PARASEPTS®

Write for a copy of the technical bulletin on the Parasepts. Samples (Purified or Technical) are available promptly on request.

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(Methylparaben U.S.P.)
ETHYL PARASEPT
PROPYL PARASEPT
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Shipped in 100, 50 and 25-lb. fiber drums.

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News...

Pfizer Executive Appointments

Edward J. Massaglia has been appointed administrative vice-president of all foreign trade subsidiaries of Chas. Pfizer & Co., according to Charles A. Specht, president of the subsidiaries. Also appointed were Preston B. McGoodwin, Jr., as vice-president of Pfizer Inter-American, S. A., Laboratorios Pfizer, S. A., and Pfizer Canada, Ltd.; and John O. Teeter, vice-president of Pfizer Overseas, Inc., and Pfizer, Ltd.

EDWARD J. MASSAGLIA

Wyeth Executive Appointments

H. F. AuBuchon and D. J. Withington, both former assistant directors of sales, Wyeth Laboratories, have been named to the newly-created posts of sales manager and director of promotion, respectively. At the same time, Kenneth L. Brown, copy chief, has been appointed advertising manager, according to Stuart V. Smith, vice-president and director of sales.

Hooker Executive Promotions

R. Wolcott Hooker, formerly vice-president in charge of sales, has been elected vice-president of Hooker Electrochemical Co. and has been given broader responsibility with respect to overall management of the company.

Robert E. Wilkin, formerly general sales manager, was elected vice-president and general sales manager, while Frank W. Dennis, formerly director of industrial relations, was elected vice-president in charge of industrial relations.

Kyrides Retires as Sumner Pres.

Dr. Lucas P. Kyrides has retired as president and research director of the Sumner Chemical Co. and will remain a research consultant for Sumner. He is now on a 3-month vacation in Europe.

He joined Monsanto Chemical Company in 1928 as director of organic chemical research, where he remained until 1947, thereupon retiring to devote full time to Sumner Chemical Co.

Dobbs, Breon Sales Manager

Harold R. Dobbs has been appointed divisional sales manager of the south-central states sales territory for George A. Breon & Co., according to Frederick O. S. Spencer, vice-president in charge of sales. He will supervise sales activities in Alabama, Tennessee, Kentucky and Mississippi from headquarters in Montgomery.

JOHN O. TEETER

McNeil Promotions

John Hogan, formerly director of advertising, has been promoted to director of advertising and promotion at McNeil Laboratories, according to H. S. McNeil.

Clark H. Johnson, director of foreign sales, has been promoted to director of distribution and will continue to direct these operations, as well as the domestic distribution.

H. M. Schabacker has been promoted from manager of the sales training department to director of sales training. He will direct the over-all sales training program of the corporation.

Matsumoto Visits Sharp & Dohme

Yasuzo Matsumoto, of the Japanese Ministry of Health and Welfare, who is travelling in the United States under a fellowship of the World Health Organization, recently visited Sharp & Dohme, Inc. He is studying methods of control employed in the Food and Drug Administration and also in American industry.

Reinier Succeeds Drach at Abbott

Glenn H. Reinier, general purchasing agent, has succeeded Edmund L. Drach as head of the purchasing department of Abbott Laboratories, Mr. Drach having retired after 50 years' work with the company.

Mr. Reinier has been with Abbott 26 years, having started as a chemist. He has been a member of the purchasing department for 18 years and has served as general purchasing agent since 1951. His new title will be director of purchases.

Mr. Drach's service record is the longest one in Abbott's history. He started working for the firm's founder, W. C. Abbott, M.D., as a book-binder's helper at the age of 15 and was placed in charge of purchasing in 1914. He was made a director in 1930, and a vice-president, in 1947.

GLENN H. REINIER

CIBS to Make $250 Award

The Cosmetic Industry Buyers and Suppliers Association will make a cash award of $250 to the author or authors of the best scientific paper presented at the meetings of the Scientific Section of the Toilet Goods Association during 1952, and published in the Proceedings of the Scientific Section of the T.G.A.

The publication committee of the T.G.A. Scientific Section Proceedings will act as a judging committee in the selection.

The award will be presented by CIBS President Robert A. Armstrong, Goldschmidt Chemical Corp., at the luncheon of the T.G.A. Scientific Section to be held at the Waldorf-Astoria Hotel on May 14.

Grimm, V.P., Arnida Products

Charles H. Grimm has been elected vice-president and director of the Arnida Products Corp., 15 Whitehall St., New York. He had formerly been manager of the essential oil division of Felton Chemical Co.

Croxall Appointed by Sumner

Dr. Willard J. Croxall has been appointed director of research for the Sumner Chemical Co. in charge of both the research laboratories at Elkhart, Indiana, and the pilot plant laboratories at Zeeland, Michigan.

Dr. Mitchell F. Zienty remains assistant research director in charge of the Elkhart Laboratories. Dr. A. P. Centolella is assistant director in charge of the pilot plant laboratories at Zeeland.

DR. WILLARD J. CROXALL

MMR Annual Banquet

Magnus, Mabee & Reynard, Inc. held its 13th annual reception and banquet for members and friends of the Druggists Supply Corp. in the Waldorf-Astoria Hotel, March 7. Dr. Ivor Griffiths, president of the Philadelphia College of Pharmacy, delivered a talk on the late Percy C. Magnus, Sr., founder of MM&R.

Over 500 guests attended the dinner which was held simultaneously with the DSC convention.

Nat. Vitamin Elections

Dr. Norman Jolliffe has been re-elected president of the National Vitamin Foundation, and Dr. Robert S. Goodhart was re-elected executive vice-president and scientific director.

Vice-presidents elected were R. W. Albright, general manager of Distillation Products Industries; W. R. McHargue, vice-president in charge of marketing and advertising, E. R. Squibb & Sons division, Mathieson Chemical Corp.; and John E. McKeen, president of Chas. Pfizer & Co.

Homer C. Fritsch, executive vice-president, Parke, Davis & Co., was re-elected chairman of the board of governors. Dr. E. Gifford Upjohn, president of the Upjohn Co., was re-elected chairman of the executive committee, and J. David Hayden, eastern sales manager of the R. P. Scherer Corp., Gelatin Products division, was elected treasurer. Henry K. Urion was re-elected secretary and counsel, and Mrs. R. D. Gilbert, assistant secretary.

Schering "President's Cup" Won

The Metropolitan division of Schering Corp. recently received the "President's Cup" for 1952, which is presented each year to the division of domestic sales having the highest percentage attainment of sales objectives and all-around performance. Allan A. Miller, assistant domestic sales manager, presented the Cup on behalf of Francis C. Brown, company president, to Max A. McDaniel, division supervisor, during the "Victory Meeting" in February.

Weber, Promoted by Pfizer

Ernest M. Weber has been promoted to associate director of biochemical research and production at Chas. Pfizer & Co., according to Jasper H. Kane, director of the department. He joined the company in 1942 as a biochemist and collaborated in research on penicillin, riboflavin and streptomycin fermentation. In 1946 he was named assistant director of biochemical research and production.

ERNEST M. WEBER

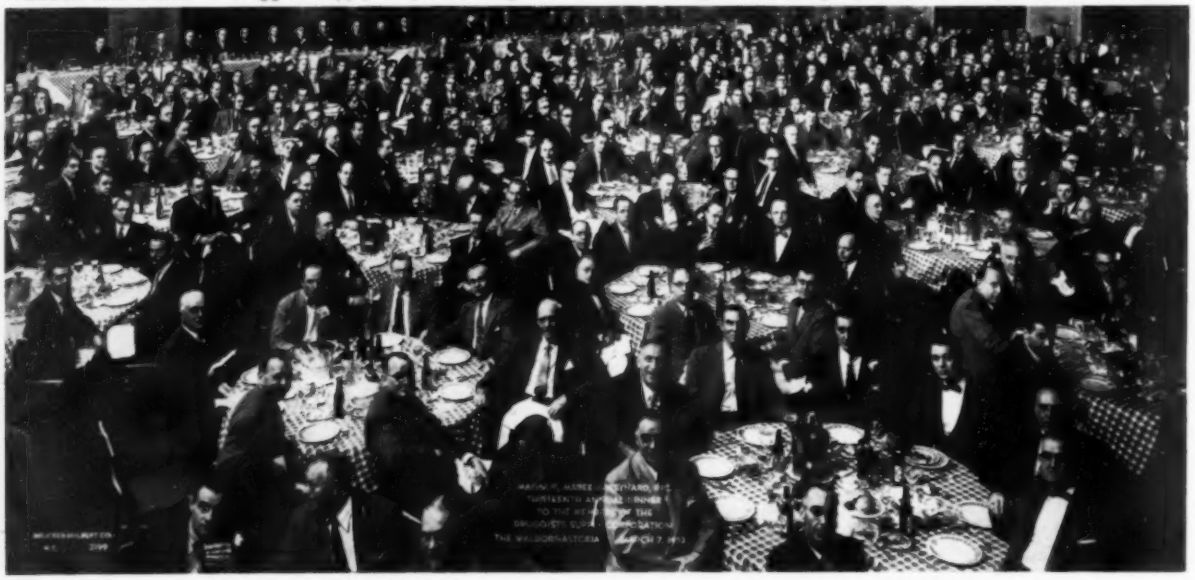
New Offices for Rilling-Dermetics

The executive and sales offices of Rilling Dermetics Co. have been combined in larger quarters on one floor at 630 Fifth Ave., according to Victor Arnao, executive vice-president and general manager.

Taylor Greenwald Changes Name

The Taylor Greenwald Co. of Cincinnati is now known as the Paul Wiemer Co.

Members and friends of Druggists Supply Corp. attending 13th annual dinner given by Magnus, Mabee & Reynard in their honor.



DRESSING UP makes the difference!

This is our 6-ounce Contoure Line bottle capped with an Empress molded closure. Other sizes are 1-, 2-, 3-, 4- and 8-ounce. They combine Duraglas quality with stock-mold economy.

Smart lines... flair for color... stylish ACL labels blended imaginatively create an outstanding salespackage.

May we submit our ideas for a Duraglas salespackage for your products?

Duraglas packages are protectors of quality

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glamorize and merchandise

your solid cologne
solid toilet water
facial and hand creams
deodorants
after shave lotions

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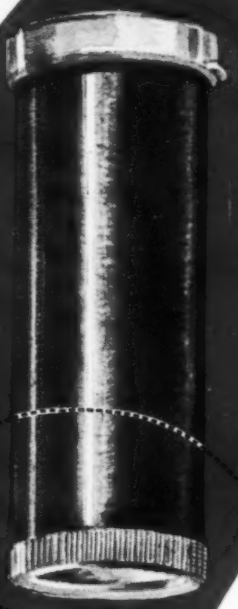
1 OUNCE CAPACITY



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PROPEL-REPEL
AIRTIGHT
SHRINK-PROOF
CONTAINER

IN GLORIOUS COLORS AND COMBINATIONS

no moulding required... product can be poured directly into container... eliminates necessity for costly foil wrapping.

CALUMET *Manufacturing Co., Inc.*

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PLANTS: NEW YORK CITY, BLOOMFIELD, N. J., WATERBURY, CONN.
IN CANADA: CALUMET DIVISION OF ERIC H. HARDMAN, LTD.
137 WELLINGTON ST., WEST, TORONTO, CANADA

PAT PEND

Emery Appointments

J. P. Clancy has been shifted from the southern area to the New England territory of Emery Industries, Inc. and will join J. M. Washburn in the responsibility for sales of all Emery products in that region.

C. T. Burgess has taken over the sales duties vacated by Mr. Clancy, including the states of Mississippi, Alabama, Georgia and eastern Tennessee.

E. L. Spencer and E. W. Sack have been appointed to the sales staff.

J. P. CLANCY

C. T. BURGESS

TGA Golf Tourney and Awards

Winners of the annual golf tournament (to be held May 11) will be announced at the T.G.A. luncheon on Wednesday, May 13, when the Association's three memorial golf awards—the Cecil Smith, Bernard M. Douglas, and the B. E. Levy Trophies—will be presented.

The tournament will take place at the Winged Foot Golf Club, Mamaroneck on Monday, May 11, followed by an informal dinner at the clubhouse.

Paul H. Douglas, Bourjois, is chairman of the golf tournament committee, which membership also includes John A. Ewald, Avon Products; Pierre Harang, Houbigant; Richard Salomon, Charles of the Ritz; Philip C. Smith, Yardley; and Paul E. Forsman, C.H. Forsman Co.

Reyes, V.P., Robins Inter-Amer.

Dr. Martin Reyes, export manager of A. H. Robins Co., has been elected vice-president of A. H. Robins Inter-American Corp., according to E. Claiborne Robins, president.

Gould to Visit Europe

S. H. Gould, vice-president of the American Pharmaceutical Co., is leaving on April 30 for an extended business trip to England, Holland, Switzerland, Western Germany, France and Portugal.

E. L. SPENCER

E. W. SACK

Ladenburg Heads Nepera Research

Kurt Ladenburg has been appointed director of research, development and engineering of the Nepera Chemical Co., according to Stanley S. Lasdon, executive vice-president. He had formerly been director of research and development of Schenley Laboratories.

Sidney Factor on 4-Month Tour

Sidney Factor, export sales executive of Max Factor & Co., left last month on a 4-month inspection tour of the company branches and distributing agencies in Latin America. He will visit Cuba, Mexico, Puerto Rico, the Dominican Republic, Curacao, Venezuela, Chile, Argentina and Brazil, returning to Hollywood the latter part of July.

Cassullo Reports on Latin Amer.

John L. Cassullo, president of Dodge & Olcott, Inc., recently returned from a trip to Colombia, South America, and in a discussion of Latin American economic conditions, made the following observations.

Colombia, Peru and Venezuela are at present the best Latin-American market potentials for U. S. manufacturers, for in these countries exchange is available, and natural resources are being developed which will create the dollar balances necessary for trade with America. Conditions here, according to Mr. Cassullo, are comparable to those prevailing in the United States some 30 or 40 years ago. He believes these nations will achieve modern industry within 10 or 15 years because of the vast amount of American know-how that is being introduced into their expanding economies.

Chile and Argentina are both out of the picture at present because of restrictions upon dollar imports and also because of the large influx of European competition.

Brazil, Mr. Cassullo feels, is the best potential economic market, and the most fertile ground for expansion of American and European industry. European competition is extremely active in this country and dominates the scene at the present time. There are a number of Brazilian concerns engaged in the manufacture of essential oils, and a number of European and Asian plants which are being developed on an experimental scale to see if they can be grown in Brazil.

Sagarin with Standard Aromatics

Edward Sagarin, formerly advertising manager and editor of publications for Givaudan-Delawanna, Inc., has been appointed director of sales of Standard Aromatics, Inc. He was for several years special lecturer on perfume materials and perfumery at Columbia University, and has delivered papers before the American Chemical Society, Society of Cosmetic Chemists, the Toilet Goods Association, and other groups, speaking particularly on the need of tested scientific methodology in the approach to perfumery problems.

Lindsay Named Heyden Secretary

James K. Lindsay has been elected secretary of Heyden Chemical Corp., replacing Paul van der Stricht, resigned, according to Simon Askin, president. Mr. Lindsay was previously a partner in a New York law firm.

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antibiotic
preparations
effective
against
eye,
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and
skin
infections

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BIG FOUR in
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NEOMYCIN
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Write today for your copy of the Heyden booklet, "Neomycin Literature Review and Other Pertinent Data", and also our Neomycin Technical Bulletin.

HEYDEN CHEMICAL CORPORATION
342 Madison Avenue, New York 17, N. Y.
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FINE HEYDEN CHEMICALS

HOWARD R. SIEVERS

HOWARD W. BALDOCK

RALPH R. PATCH

Sievers with Smith-Dorsey

Howard R. Sievers, formerly with Lederle Laboratories for 15 years, has been appointed sales manager of the Smith-Dorsey division of the Wander Co.

To Honor Chew on 50th Year

John A. Chew, president of the New York chemical firm of the same name, will be honored at a testimonial dinner on May 26, the anniversary of his 50th year in the chemical industry. The celebration, to be held at the Hotel Roosevelt, New York, is being sponsored by his many friends in the trade, and is being supported by chemical industry associations.

Mr. Chew entered the chemical industry in 1903 as stenographer-salesman for Rosengarten & Sons, and two years later became a full-time salesman for the Powers - Wrightman - Rosengarten Co. He joined Bauer Chemical Co. in 1910 as office manager and left four years later when he was appointed sales manager of the British American Chemical Co., where he remained for one year.

From 1917 to 1930 Mr. Chew was vice-president in charge of sales for Warner Chemical Co., Warner-Klipstein Co. and Westvaco Chlorine Products Co. Before forming John A. Chew, Inc. in 1932, he spent two years as vice-president of the Swann Chemical Co.

The committee in charge of arrangements is headed by Joseph M. Wafer, vice-president of the West Virginia Pulp & Paper Co. Other members are William J. Weed, vice-president of the Niagara Alkali Co.; Robert J. Milano, president of Millmaster Chemical Corp.; and John J. Butler, of West Virginia's industrial chemical sales division.

Tickets for the dinner, which will be held in the Hendrick Hudson may be obtained from any member of the committee on arrangements.

Baldock, Advg. Mgr., Squibb

Howard W. Baldock, formerly assistant advertising manager of E. R. Squibb & Sons division, Mathieson Chemical Corp., has been named advertising manager.

H. E. Petersen, Jr. has been appointed to the newly-created post of assistant to the vice-president in charge of advertising and marketing of the Squibb division.

Lakeside Promotions

Lee L. Gibson has been promoted to vice-president and assistant to the president of the company, Lakeside Laboratories, and William Hartstone, to domestic sales manager.

George Squibb in New Post

George S. Squibb, formerly assistant to the president and secretary of E. R. Squibb & Sons, has been appointed to the newly-created post of director of domestic administrative operations.

Ralph Patch Portrait Dedicated

An oil portrait of Ralph R. Patch, chairman of the board, the E. L. Patch Co., was dedicated and hung in the reception office on March 21 during an informal open house. Mr. Patch was first elected vice-president in 1912, becoming general manager in 1917, and president and treasurer in 1924. He remained president until 1948, and treasurer until 1951, having been elected to his present position of chairman of the board last year.

Webber with Dermetics

Herbert S. Webber has been appointed to aid Tom Lombardo in the promotion of Dermetics products in drug and department stores in the Chicago, Minneapolis and Kansas City area, according to Nelson Millard, sales manager, Dermetics division of Rilling Dermetics Co.

James C. DeCesare, left, president of White Laboratories, accepting completed wall painting for conference room from artist Edmond Fitzgerald. The Pasteur mural is bordered by drawings representing the scientist's major discoveries, including rabies vaccine, heat treatment in controlling wine fermentation and artificial immunization.

CONSUMER SURVEY WILL FIND FACTS *for* T. G. A. CONVENTION

AT THE Eighteenth Annual Convention of The Toilet Goods Association to be held at the Waldorf-Astoria Hotel in New York City on May 12, 13 and 14, the previously announced theme, "Let's Face Facts", will be implemented by a consumer survey now being conducted by the Association. This survey will attempt to find the facts on a number of problems currently facing the toilet goods industry. Such things as changing patterns of distribution, effectiveness of advertising, consumer buying trends and others are covered by the survey which will represent a very substantial cross-section of the American people in all parts of the country.

EXPERTS from outside the industry will address the Convention, basing their talks on the facts as disclosed by the survey. Among the topics of these speakers will be the following:

"Let's Face Facts on Advertising and Promotion"
"Let's Face Facts on Where Toiletries are Bought"
"Let's Face Facts on Consumer Buying Trends"
"Let's Face Facts on Product Research"

IN ADDITION, the program will be sufficiently flexible to include discussion of the present activities of the Federal Trade Commission, Congressional proposals for amendments to the Food, Drug and Cosmetic Act, and such other topics as may be important to the industry at the time of the Convention.

THESE ADDRESSES and discussions are expected to lead naturally into a very lively and important closed meeting for manufacturers only. It is hoped at this meeting to develop industry policy relative to topics discussed at the open meetings and in addition to determine the attitude of members of the Association with respect to the consumer survey. This last might well be made a part of the regular program for the Association as an annual affair designed to secure completely impartial information on the marketing, advertising and promotion of toilet goods.

THE LUNCHEON PROGRAMS for each day will also be of interest and value. On the first day the Charles S. Welch Packaging Award for 1952 will be presented. On the second day the three major Golf Tournament trophies will be awarded to the winners in the Golf Tournament, to be held on May 11th at Winged Foot. On the third day, the program of which will be devoted to the Scientific Section, the Cosmetic Industry Buyers Suppliers (CIBS) prize for the outstanding paper published in the Proceedings of the Scientific Section during 1952 will be awarded. This is a cash award of $250.00 to be presented to the author of the winning paper.

ALL MANUFACTURERS of finished toilet preparations, whether members of the Association or not, are invited to attend all sessions of the Convention. *Attendance by suppliers will be strictly limited to those who are Associate Members of the T.G.A.* Attendance at the closed meeting for manufacturers only on the afternoon of Wednesday, May 13th, will be limited to manufacturers of finished toilet goods. Suppliers, whether Associate Members or not, members of the press, and retail and wholesale distributors of cosmetics will be excluded from that meeting.

THIS PROGRAM promises the most interesting, most vital and most constructive Convention in the history of the Association. We express the hope that every manufacturer of toilet goods in the country will be present to take part in the meeting.

THE TOILET GOODS ASSOCIATION, INC.
9 ROCKEFELLER PLAZA, NEW YORK 20, N. Y.

Further advertisements in this series will present to the industry what we feel will be an interesting picture of your Association's activities. Please read them and get to know us better.

DR. MAX STOLL

Stoll Receives Fritzsche Award

Dr. Max Stoll, chief of the research department, Firmenich et Cie., received the 1953 Fritzsche Award, presented by the American Chemical Society, at the Society's spring meeting in Los Angeles on March 16. The award was given to Dr. Stoll in recognition of his work in the field of essential oils and related chemicals.

Reception for Jean Borde

M. Jean Borde, president of Roger & Gallet of Paris, and Mlle. Rosane Brussaux, Paris designer, were guests of honor at a reception on March 31 at the Rainbow Grill, 30 Rockefeller Plaza. Guy Rocherolle, president of Roger & Gallet, U.S.A., had Mlle. Brussaux's new displays, "Le tour du monde en huit vitrines," flown over from Paris for the first exhibit in America. "Around the World in Eight Windows" is a series of eight colorful tableaux, especially created for Roger & Gallet in France.

Hendy Visits Evans Chemetics

Thomas G. C. Hendy, managing director of Evans Chemicals Limited of Elstree, England, last month visited the home office of Evans Chemetics, Inc. in New York, and also various cosmetic plants in the East and Middle West.

THOMAS G. C. HENDY

U. S. Vitamin in Canada

U. S. Vitamin Corp. has formed a new Canadian corporation to manufacture, and to provide broadened distribution of, ethical vitamin products and related medical and pharmaceutical specialties, according to H. B. Burns, president.

Frederic W. Ballentine, former general sales manager for the Lambert Pharmacal Co. has been elected vice-president and is in charge of U. S. Vitamin Corp. in Canada. Until his appointment to this post, Mr. Ballentine had served as vice-president of Davis & Lawrence, Montreal drug firm.

The new company has already established manufacturing and office headquarters in Montreal at 1452 Drummond St., and further expansion of the corporation's activities in Canada will be undertaken to meet growing demands of the Canadian pharmaceutical market.

$300,000 Fire in Factor Warehouse

The second fire in the past eight months last month destroyed the same warehouse of Max Factor & Co., causing an estimated damage in excess of $300,000. The building was comparatively new and had been used by the make-up firm for warehouse purposes only a little more than a year. Origin of the fire is unknown, according to Davis Factor, chairman of the board, who stated that most of the loss was on stocks of raw materials and colors that go into the manufacturer of cosmetics. Since the company maintains other warehouses, both in Hollywood and Chicago, the damage will not affect distribution of the firm's products in any way.

Guenther Back from Lecture Tour

Dr. Ernest Guenther, vice-president and technical director of Fritzsche Brothers, Inc., has returned from a trip on which he presented four lectures under the auspices of local sections of the American Chemical Society in Kingsport, Chattanooga and Nashville, Tenn., and in Winston-Salem, N. C. A fifth lecture was given for the local Lions Club in Columbus, Ga.

His talks, accompanied by full-color motion pictures, covered essential-oil production throughout the western world.

Dr. Guenther also presented a paper on the use of spices and oils in meat products during the March 26-27th meeting of the American Meat Institute in Chicago.

MAX FACTOR, JR.

Factors on 3-Month Trip

Max Factor, Jr., president of Max Factor, and his wife, departed March 20 for a 3-month business-pleasure trip to seven European countries. They will tour England and then visit the company branch offices and distributing agencies in France, Belgium, Holland, Switzerland, Italy and Ireland.

Linnard Named Hudnut V.P.

I. R. Linnard has been appointed vice-president in charge of merchandising, according to C. A. Pennock, president of Hudnut Sales Co. He joined the company in 1946 as merchandise manager.

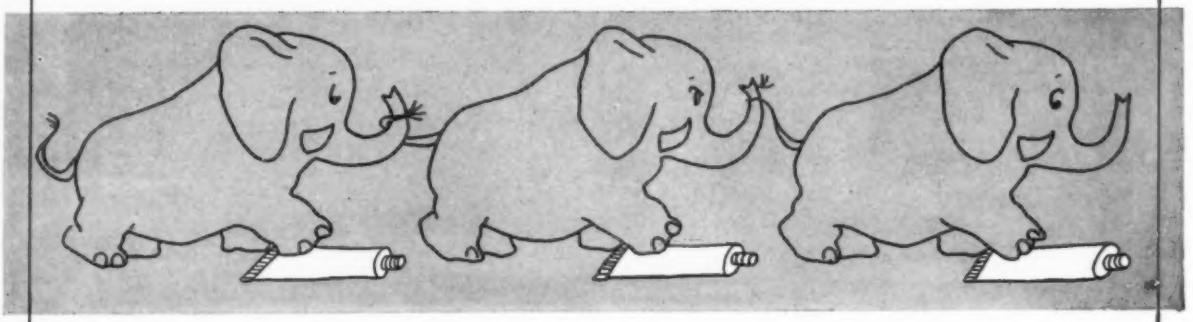
Gibbons Appointed by Gair

O. R. Gibbons has been appointed to the newly created position of sales promotion manager for the folding cartons division of Robert Gair Co.

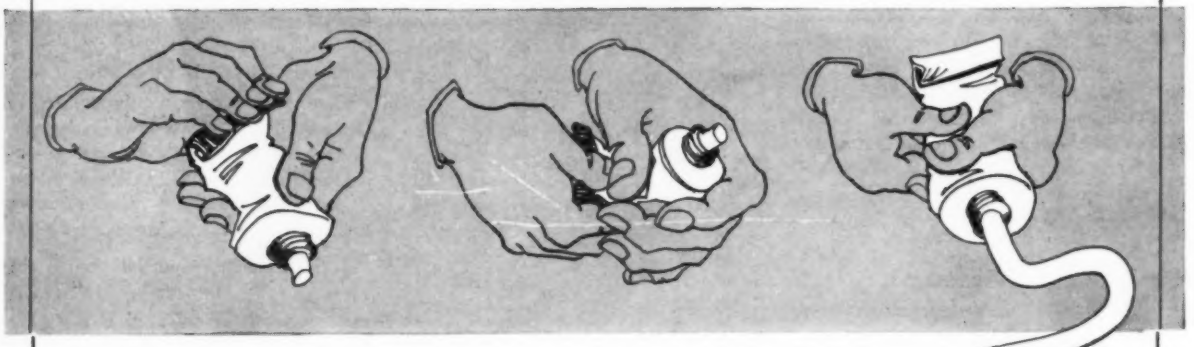
Stephenson on Verley Sales Staff

J. H. R. Stephenson has joined the sales staff of Albert Verley & Co. His experience in this industry covers over 25 years in various capacities. While he has spent most of the time in the East, Mr. Stephenson is well known throughout the country.

J. H. R. STEPHENSON



We admit it...our tubes won't stand up under abuse like this...



...but they most certainly will under abuse like this!

Sun Tube Corporation
Hillside, New Jersey

SALES REPRESENTATIVES

St. Louis 1, Missouri—Marvin Yates Co., Arcade Building
Cincinnati 8, Ohio—Ralph H. Auch, 3449 Custer Road
New Orleans 19, Louisiana—R. P. Anderson Co., 925 N. Solomon Pl.
Houston 19, Texas—R. P. Anderson Co., 5643 Overbrook Lane
Dallas 2, Texas—R. P. Anderson Co., 1122 Texas Bank Building
St. Paul 1, Minnesota—Alexander Seymour, 712 Pioneer Building
West Coast—Wm. J. Stoepker, 301 E. Colorado, Arcadia, California
Canada—Sun Tube Corp., 145 Spruce Street, Ottawa, Ontario
Mexico—Tubos de Estano, S. A. de C. V., 174 Oriente No. 267, Colonia Moctezuma, Mexico, D. F.

HENRY L. ROWSE

Rowse with Duveen Soap

Henry L. Rowse, formerly with Aromatic Products, Inc., and more recently, Abraham & Straus, has joined the sales staff of Duveen Soap Corp. as sales representative.

Upjohn V. P. Honored by Rotary

C V. Patterson, executive vice-president of the Upjohn Co., recently received the Kalamazoo Rotary Club's Red Rose citation "for directing the establishment of a Civil Defense organization for the city and county of Kalamazoo." The award was made by Upjohn's vice-president and director of sales, and Rotary member, W. F. Allen.

In making the presentation, Mr. Allen pointed out that perhaps the outstanding accomplishment was a control center, with two-way radio communication to other departments of the Civil Defense organization, which was set up in the basement of Upjohn's Portage Road Plant.

Mallinckrodt Sales Changes

Paul A. Hein, regional sales manager of Mallinckrodt Chemical Works, with headquarters at St. Louis, has added the South Central states to his territory. Walter R. Nay, regional sales manager with headquarters in Chicago, has added Michigan and northwest Ohio to his North Central area.

Parke, Davis Promotions

J. M. Comeau, hospital representative, Parke, Davis & Co., has been promoted to field manager in the Montreal branch, and will work under the direction of Duncan Woods, Branch manager. His new position will cover sales assignments in all French-speaking territories in the Province of Quebec.

C. G. Flach, salesman in New Orleans, has been advanced to field manager in that branch of Parke, Davis. He will work under the direction of E. A. Kimzey, branch manager.

Farnum, Fox, Scherer V.P.'s

LeRoy R. Farnum, director of purchases and bulk chemical sales, and Dr. Sereck H. Fox, director of pharmaceutical research and control laboratories, have been elected vice-presidents of the R. P. Scherer Corp., according to Robert P. Scherer, president.

Chem -Arom Moves to New Address

Mr. M. J. Healy, president of Chem-Arom Co. of 130 Water St., has announced a move to new and larger quarters at 39-15 28th St., Long Island City 1, N. Y.

Schering Opens Chicago Office

Schering Corp. has opened a new professional service office and branch warehouse at 251-315 East Grand Ave., Chicago 11, according to George C. Straayer, professional service manager.

The new location comprises a modern shipping plant designed to facilitate rapid delivery of Schering specialties to drug wholesalers, retail pharmacies, and hospitals in the central and southern divisions. Larger office space is also provided for the Chicago professional service office which was formerly located at 55 East Washington St. as a service to the medical profession.

Carl H. Suding, Schering central division manager since 1945, will continue to supervise the newly expanded operation, while Francis X. Egan is serving as branch manager.

Jergens Presents $250,000 Gift

Andrew Jergens, president of the Andrew Jergens Co., has made a gift of $250,000 in real estate to the endowment fund of the Cincinnati College of Pharmacy "in recognition of the need for increased support for pharmacy schools and in recognition of the great contribution pharmacists and druggists have made to the nation's health and well-being."

This donation, according to Ralph Kinross, president of the college, has given a substantial boost to the school's drive for an $850,000 endowment fund which will enable the college to become a part of the University of Cincinnati.

Smedley Succeeds Morgan at P-D

J. A. Morgan has retired from Parke, Davis & Co. as manager of the firm's extract number one department. He had been with the company 35 years.

Edward M. Smedley, Jr., has been transferred from the general pharmaceutical department to take over management of extract number one department.

ARTHUR J. RODRIGUEZ

Appointed by Floramatic

Arthur J. Rodriguez has been appointed special sales representative of Floramatic Inc., covering Latin America, according to Jacques d'Aigremont, president. He is now in Mexico, where he will spend some time on the first lap of his new assignment. Mr. Rodriguez had formerly been associated with Firmenich & Cie, Fritzsche Brothers, and E. R. Squibb & Sons, respectively.

Geigy Adds to Service Staff

Twelve new representatives have been appointed to the Geigy professional service staff, according to E. Hammer, president of Geigy Pharmaceuticals. They will serve the medical and pharmaceutical professions in various territories throughout the country.

The new representatives have completed a specialized course of training in scientific and sales fields under the direction of Arthur F. Peterson, in charge of sales. Geigy plans further rapid expansion of its field staff to provide well-trained and qualified representation in all parts of the country.

Abbott Names 3 Vice-Presidents

Herbert S. Wilkinson, director of sales, Abbott Laboratories; Hugh D. Robinson, plant superintendent; and Floyd K. Thayer, director of chemical sales, were all elected vice-presidents last month, following the annual meeting of stockholders.

Charney with Schering

Dr. William Charney has been appointed to the research staff of Schering Corp., according to Robert Waterman, vice-president.

Van Meter on Research Project

Dr. C. T. Van Meter, director of research and control, Reed & Carnrick, has accepted a research appointment on Project Big Ben at the U. of P.

JOHN OLSEN

Olsen, Norwich Export Controller

John Olsen has been appointed controller of exports by the Norwich Pharmacal Co. and will serve as a liaison officer between the company's headquarters offices and plants and its export division in New York City.

Barrett in Pfizer Trade Post

Larry J. Barrett has been appointed director of trade relations for the antibiotic division of Chas. Pfizer & Co., according to Thomas J. Winn, general manager of the division. Formerly sales manager, he will now be responsible for all sales matters connected with Pfizer franchise wholesalers.

George R. Guess will assume the duties of sales manager, with primary responsibility for the antibiotic division's field sales organization. Courtland H. Barwick will fill Mr. Guess' former position as assistant sales manager.

Severson Named APMA Economist

Harry L. Severson has been appointed a full-time economist of the American Pharmaceutical Manufacturers Association, in accordance with the action of the board of directors in December. He will be located in the Association offices after May 1.

Dunkel Moves Offices to N. J.

Paul A. Dunkel & Co., Inc. has moved its offices from 1 Wall St. to larger quarters at 26 Journal Square, Jersey City 6, N. J. The warehouse facilities are still in New York. The telephone number is JOurnal Square 3-6400.

Correction: Re Xavier Givaudan

Through an error in the March, 1953, issue, page 352, the name of Xavier Givaudan was misspelled in the announcement of his election as chairman of the board of the Givaudan Corp.

CHARLES L. BARR

Barr Named Redington President

Charles L. Barr has been appointed president of the F. B. Redington Co., succeeding the company's founder, Frank B. Redington. He is the second president in the firm's 56-year history. Mr. Barr has been with Redington since 1920, at which time he joined the company as assistant to the vice-president.

Drain with Merck 25 Years

George W. Drain has been inducted into the Merck Quarter Century Club in recognition of his 25 years of service with the company. He joined Merck's sales promotion department in 1928, and since 1936 has been with the field sales department as senior sales representative in the Philadelphia district.

Agnew, Matchabelli Advg. Mgr.

William R. Agnew, formerly president of Agnew, Inc., jewelry manufacturing firm, has been appointed advertising manager of Prince Matchabelli, Inc., according to Owen Stoner, president. He will be responsible for the advertising and promotion of the company's fragrance and make-up lines.

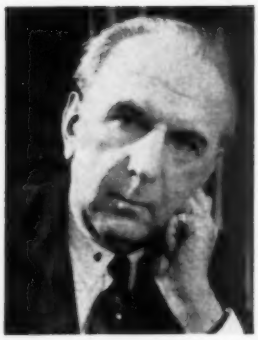
Charles Lohman

Charles Lohman, chairman of the board of Lafayette Pharmacal Inc., died March 5 at his home in Kendallville, Indiana. He was the son of George Lohman, one of the founders of the company. Mr. Lohman leaves two daughters, two sisters and a brother.

Walter E. Blair

Walter E. Blair, assistant to the president of Solvay Process division, Allied Chemical & Dye Corp., died suddenly on March 23 while vacationing with Mrs. Blair at Sarasota, Fla.

He had held positions of director of sales, and manager of the product development department before being appointed assistant to the president in 1952.



DR. EMIL C. BARELL

Dr. Emil C. Barell

Dr. Emil C. Barell, 79, formerly international president of F. Hoffmann-La Roche & Co., Ltd., died at his home in Basle, Switzerland, on March 17. He had been ill several months and only recently retired from that position. Associated with F. Hoffmann-La Roche & Co., Ltd. for 57 years, and chief executive officer of the firm for more than 50 years, Dr. Barell was a frequent visitor in New York and to the Hoffmann-La Roche laboratories and plants in Nutley, N. J. In addition to his degree as Doctor of Philosophy in Chemistry, which he received from the University of Berne, Dr. Barell received four honorary degrees from leading universities in Switzerland. During his tenure of office, the company grew from a small Swiss firm to a world-wide organization employing over 5000 people.

He was best known in this country for his pioneer work in developing facilities for large-scale production of vitamins, and he was one of the first of the pharmaceutical manufacturers to conceive the idea of pharmaceutical specialties.

Dr. Barell is survived by his wife, Colette, and a daughter, Maria.

Robert B. Evans Jr.

Robert Buckner Evans Jr., executive vice-president of the Dr. West Toothbrush Co., died in a hospital in Dallas, Texas, on March 25. He was 55 years old.

Robert J. Kremers

Robert J. Kremers, secretary and treasurer of Kremers-Urban Co., died March 14 in the Milwaukee Hospital, Milwaukee, at the age of 33. He was the son of Ernest Kremers, one of the founders of the company. Mr. Kremers is survived by his wife, Gloria.

ADVERTISEMENT—*This entire page is a paid advertisement* *Prepared by U. S. Industrial Chemicals Co.*

U.S.I. CHEMICAL NEWS

April ★ A Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1953

Research Links Methionine With Male Sex Hormone

Evidence of a possible relationship between methionine and testosterone – the male sex hormone – is seen in the results of recent studies of induced fatty liver infiltration, it is reported.

It is known that ethionine, an antagonist of methionine, prevents methionine from acting. Ethionine, when present, therefore causes a deficiency of methionine, one manifestation of which is fatty infiltration of the liver. It has also been found that methionine can counteract this effect of ethionine in rats and can protect the animal against death. Other amino acids are ineffective in this respect.

The new investigations have shown that testosterone minimizes the fatty liver infiltration due to ethionine. The effect of the hormone in opposing a methionine-antagonist is thought to be significant in that it suggests a link between methionine and the male sex hormone. This in turn suggests the further possibility of a relationship that methionine might have in influencing the body's production of testosterone or in taking its place in some biological mechanisms.

New Method Deodorizes Qualitative Analysis

Elimination of hydrogen sulfide and attendant odors from future qualitative analysis laboratories may be indicated in a recently published book on new analytical separation techniques. The book, which is reported to be arousing a great deal of interest, deals with a method for early removal of troublesome tri- and tetravalent metals through a basic benzoate separation. Students who have used the method are said to have found it faster, easier, and comparable in results to the older, hydrogen sulfide method.

Plastic Improves Ancient Plant Propagation Method

A vinyl film, coated with a mixture of hormone, insecticide, fungicide, and fertilizer, was recently marketed as an aid to gardeners who propagate trees, shrubs, and other plants by 'airlayering'. The method, which has been used for centuries in one form or another, consists of selecting a branch for rooting, peeling away an inch-wide strip around the branch, and then covering the strip with moss and a wrapping of film. After a certain period of time, roots will have sprouted inside the covering, and the branch is ready for cutting and planting. The new impregnated film is claimed to speed up the process and to increase chances of its success.

U.S.I. Helps Educate Farmers In Best Insect Control Methods To Keep Grains For Food Clean

Pyrenone Insecticides Have Important Role in the Insect Control Program, Affording Protection Against, Instead Of Cure for, Infestion of Grains Destined for Storage

In cooperation with the various farm groups and college extension services, U.S.I. is currently taking part in a major country-wide project to educate grain farmers in efficient insect control methods. The project is being undertaken in anticipation of demands for more rigid inspection standards to provide cleaner grains for human consumption.

Insect Control a Prime Factor

Tighter supervision will make it imperative that everyone connected with the production and marketing of grain be thoroughly familiar with all factors affecting grain quality.

Foremost among these factors is the presence or absence of insects – whether alive or dead. Under the new standards, for example, an elevator will be less likely to purchase grain containing weevils without docking it. Tighter controls and inspection prevent such grain from being sold for food purposes.

Since a large share of the responsibility for clean, insect-free grain rests with farmers, U.S.I. is helping to make available to them complete information on the latest and most efficient techniques for dealing with the insect problem.

MORE

Wanted—More Information For Potential Chemists

A recent survey by the Manufacturing Chemists' Association indicated that most science teachers feel they need more information in order to advise students about opportunities and careers in the chemical and chemical engineering professions. A spokesman for the Association points out that chemistry is vitally important to the nation's future. It is therefore imperative that potential future scientists be made fully aware of the opportunities for personal achievement and public service in the field.

In line with steps now being taken throughout the chemical industry to fill this need for more information, U.S.I. will be glad to supply interested teachers and students with material on any of the company's diversified line of industrial chemicals.

Protecting grain from the farm to the consumer from the infestations of insects lurking in storage and shipping facilities all along the way is a major problem of the grain trade. Pyrenone Protectants provide a preventive program for accomplishing this protection without toxic hazards.

April ★ **U.S.I. CHEMICAL NEWS** ★ 1953

CONTINUED

Best Insect Control Methods

Educational Programs Show How

As one example of how the educational project is working, a series of meetings is currently being held in five key centers of the Kansas wheat belt by the Kansas Wheat Improvement Association and the Kansas Extension Service. Authorities from Kansas State College are on hand at these meetings to explain the entire program of weevil control, including bin spraying, bin cleaning, fumigation, and other techniques.

An important part of each meeting is devoted to a showing of U.S.I.'s motion picture, "Beating the Weevil", which shows the techniques of storage insect control with Pyrenone. U.S.I. representatives are also on hand to answer questions and to supply additional information.

Why Pyrenone is Important

Pyrenone insecticides have a prominent part in the entire insect control project due to the fact that they afford protection against, instead of cure for, the problem. With the new inspection standards, it is equally important that grain sold for food purposes be free of dead insects as well as live ones. Three exit emergence holes in ½ pint of wheat — about 4200 kernels — are enough to rule a whole shipment as contaminated and downgraded for feed purposes only. Hence, killing the insects in infested grain solves only half the problem: they must be stopped before infestation begins.

With Pyrenone, the farmer is assured of this kind of protection. A single application stops insects cold at the start, keeps them out of clean grain, and prevents any future infestation, even when the grain is stored in open bins or cribs. Application techniques are easy, and only one treatment is required for season-long protection.

In addition to grain protectant formulations, Pyrenone maintains protection literally from the farm to the family, the ultimate consumer. It is formulated in mill sprays and box car sprays, and it is impregnated into paper which is used to package foods.

Adapt Shell Molding To Magnesium Casting

A recent Government report indicates that magnesium alloys can now be cast successfully in shell molds — a process that has not been feasible until now. Shell molds are thin-walled molds of plastic-bonded sand which are well adapted for mechanization and which produce smooth, accurate castings. Previously, they could not be used with magnesium because of the molten metal's high chemical reactivity toward all the principal materials present — air, moisture, and sand.

The report details research that was undertaken in the use of various materials as inhibitors for these reactions and indicates which ones proved most satisfactory. Various plastic materials and mixing procedures were also investigated, and the report includes findings and recommendations on this phase of the process as well.

Carbon, Silica Gel Packet Doubles Food Shelf-Life

Small packets of activated carbon and silica gel, for inclusion in food packages to double the shelf-life of potato chips, nuts, candies, and other moisture-sensitive products, are now available to food manufacturers, according to a recent announcement. The packets were developed as a result of heavy losses to producers of such foods during hot, humid summer months.

Purpose of the silica gel is to absorb moisture which enters the package; activated carbon is included to absorb unpleasant odors that develop even when these foods are sealed and protected from moisture.

The protective agents are enclosed in a small perforated cellophane bag to eliminate the danger of their being consumed with the food.

Market tests during a Florida summer are said to have proved that potato chips packaged with the packet stay fresh and crisp from 10 to 14 days longer than those packaged in the usual manner.

TECHNICAL DEVELOPMENTS

Information about manufacturers of these items may be obtained by writing U. S. I.

To hold thermometers upright against the sides of beakers, small, inexpensive stainless steel clamps are now available. Clamps allow thermometer adjustment to any height, hold it steady even when the solution "bumps". **(No. 910)**

A new rubber-base enamel overcomes problem of attacks of moisture, fumes, and caustic cleaning compounds on machine surfaces by providing a tight, chemical resistant coating that is easily applied and quick drying, the manufacturer claims. **(No. 911)**

A self-contained portable electric melting furnace for melting, alloying, and casting small quantities of metals weighs 63¼ lbs., has a built-in pyrometer, and can be lifted easily to pour off melt. **(No. 912)**

To drain flooded basements, excavations, tubs, etc., a simple portable attachment for garden hose operates on normal water pressure to drain up to 300 gallons per hour, it is claimed. **(No. 913)**

A new automatic fire alarm system for homes, factories, warehouses, can be set to activate at any temperature up to 225° F., discriminates between normal and abnormal heat rise, and resets itself automatically after activation. **(No. 914)**

A rust inhibitor for incorporation in salt used for de-icing streets and roads, is said to protect vehicles from salt corrosion. Product is also effective in other salt uses, such as in water softeners and food processing and packing plants. **(No. 915)**

Pen-size hypodermic grease guns and oilers are now available in a kit for lubrication of small machinery parts in home, office, or factory. Tools can also be used for delicate cementing and gluing operations. **(No. 916)**

Ordinary paper labels can now be adhered to polyethylene containers with a new adhesive which can be applied in conventional labeling machines, eliminating necessity for stencilling and silk-screening, according to the manufacturer. **(No. 917)**

A new quick-setting thermoplastic cement requires no air, will set under water, does not shrink, expand, or crack, and permits bonding of metals, wood, plaster, porcelain, stone, concrete, and glass, it is claimed. **(No. 918)**

To eliminate foaming in laboratory distillations, and to overcome "parallax" errors in burette reading, a silicone formulation is now packaged in an aerosol bomb for releasing small quantities at a time as needed. **(No. 919)**

PRODUCTS OF U. S. I.

ALCOHOLS
Amyl Alcohol (Isoamyl Alcohol)
Butanol (Normal-Butyl Alcohol)
Fusel Oil—Refined
Propanol (Normal-Propyl Alcohol)

Ethanol (Ethyl Alcohol)
Specially Denatured—all regular and anhydrous formulas
Completely Denatured—all regular and anhydrous formulas
Pure—190 proof U.S.P., Absolute—200 Proof
Solox*—proprietary solvent—regular and anhydrous

ANTI-FREEZE
Super Pyro* Anti-Freeze
U.S.I. Permanent Anti-Freeze

ETHERS
Ethyl Ether, U.S.P.
Ethyl Ether, Absolute—A.C.S.

ACETONE—A.C.S.

ANSOLS
Ansol* M
Ansol* PR

ACETIC ESTERS
Amyl Acetate—Commercial and High Test
Butyl Acetate
Ethyl Acetate—all grades
Normal-Propyl Acetate

OXALIC ESTERS
Dibutyl Oxalate
Diethyl Oxalate

PHTHALIC ESTERS
Diamyl Phthalate
Dibutyl Phthalate
Diethyl Phthalate

OTHER ESTERS
Diatol*
Diethyl Carbonate
Ethyl Chloroformate

RESINS (Synthetic and Natural)
Arochem*—modified types
Arodure*—urea-formaldehyde resins
Arofene*—pure phenolics
Aroflat*—for special flat finishes
Aroflint*—room temperature curing phenolic
Araplaz*—alkyds and allied materials
Aropol*—copolymer modified alkyds
Ester Gums—all types
Natural Resins—all standard grades

INSECTICIDE MATERIALS
Allethrin
CPR Concentrates: Liquid & Dust
Piperonyl Butoxide
Piperonyl Cyclonene
Pyrenone* Concentrates: Liquid & Dust
Pyrethrum Products: Liquid and Dust
Rotenone Products: Liquid and Dust

INSECTIFUGE MATERIALS
Indalone*
Triple-Mix Repellents

INTERMEDIATES
Acetoacetanilide
Acetoacet-ortho-chloroanilide
Acetoacet-ortho-toluidide
Acetoacet-para-chloroanilide
Ethyl Acetoacetate
Ethyl Benzoylacetate
Ethyl Sodium Oxalacetate

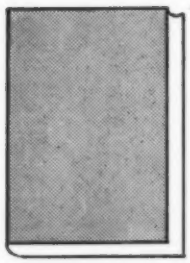
FEED PRODUCTS
Calcium Pantothenate (Feed Grade)
Curbay B-G*
DL-Methionine (Feed Grade)
Niacin, U.S.P.
Riboflavin Concentrates
Special Liquid Curbay*
U.S.I. Vitamin B_{12} and Antibiotic Feed Supplements
Vacatone* 40

OTHER PRODUCTS
Acetaldehyde
Caustic Soda
Ethylene
IPC (Isopropyl N-Phenyl Carbamate)
CIPC
Liquid Chlorine
Metallic Sodium
Methionine (Pharm.)
Nitrocellulose Solns.
Propionaldehyde
Propionic Acid
Sulfuric Acid
Urethan, U.S.P.

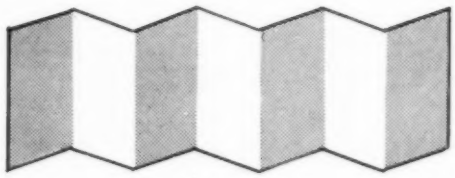
*Reg. U.S. Pat. Off.

U.S.I INDUSTRIAL CHEMICALS CO.
Division of National Distillers Products Corporation

120 BROADWAY, NEW YORK 5, N. Y. BRANCHES IN ALL PRINCIPAL CITIES



Trade Literature



Antibiotics for Industry

Chas. Pfizer & Co., 630 Flushing Ave., Brooklyn 6, N. Y., have issued an 8-page booklet entitled Antibiotics for Industrial Application. Applications mentioned include textiles, plastics and synthetic fibers, electrical insulation, paints and other surface-coating materials, processing solutions, cosmetics, plant diseases, tobacco, food processing, canned foods, fish and meat, milk and milk products, bread and other bakery products, and fermentation products.

Shell Catalogue

Shell Chemical Corporation, 500 Fifth Ave., New York 36, has issued a new 96-page edition of its catalog on organic chemicals. Properties, sales specifications, and applications are given on all products.

Roure-Du Pont Bulletin

Roure-Du Pont, Inc., 366 Madison Ave., New York 17, has issued Technical Bulletin No. 2 entitled Physical Fragrance and Modern Deodorants, by Joseph Paul Parentina.

Santophen Booklet

Monsanto Chemical Company, St. Louis, has issued a booklet giving typical disinfectant formulations of Santophen 1 germicide, effective against a wide variety of bacteria and fungi.

Atlas Industrial Chemicals

Atlas Powder Co., Wilmington, Del., has issued a new catalog of chemicals which "boils down into eight 8½x11 pages data on seven classes of Atlas industrial chemicals—sorbitol, surfactants, mannitol, solid polyester resins, fatty acids, plasticizers, and activated carbons."

Export Packaging

National Wooden Box Association, Barr Building, Washington 6, D.C., has issued a 22-page brochure on Expert Packaging. In color and profusely illustrated, the publication is intended as a guide for shippers to insure safe delivery.

Schlicksupp Tube Closure

T. F. Schlicksupp, 52 Vanderbilt Ave., New York 17, has issued a sheet illustrating a new type of tube closure for tooth paste, shaving cream, and other tubes-packaged cream products. This Self-Seal closure has no cap to remove or replace.

Fisher Titrimeter

Fisher Scientific Company, 717 Forbes St., Pittsburgh 19, has issued a 40-page manual giving background information, detailed instructions, and methods for the Titrimeter, a universal laboratory instrument for fast, accurate "electronic titrations." The loose-leaf manual, bound in durable leatheroid, is priced at $2.00.

What's New for the Lab.

Scientific Glass Apparatus Co., 100 Lakewood Terrace, Bloomfield, N. J., has issued the seventeenth edition of What's New for the Laboratory. Among the many new items featured are two types of low-priced ovens, a 6-unit extraction rack, a floating thermometer, automatic pipette and vial filling machine, several balances, electrophoreses-convection apparatus, a new simplified technique for extraction and determination of salts of organic bases and acids, a combination serological-utility water bath, improved Beckman Aquameter, various clamps—plus many other new items.

Safety Reprint

Safety in Today's Laboratories, an illustrated reprint of an article by Harry M. Schwalb, Fisher Scientific Company, has been issued by that company.

Truck and Fork Handling

The Logistics of Bags is the title of an eight-page booklet of The Elwell-Parker Electric Co., 4205 St. Clair Ave., Cleveland 3. The booklet, designed to effect the greatest economies in handling load units in plants, warehouses, etc., describes and pictures the handling cycle from receiving, through processing and shipping. More than two dozen photographs show various methods of handling by fork and platform truck.

Matheson Coleman Products

Matheson Coleman & Bell, Inc., East Rutherford, N. J., have issued Catalog No. 26, a 104-page book listing reagents, indicators, stains, volumetric solutions, and vitamins and related products.

Atlas Powde. Publications

First issue of a new pocket-size publication called Chemmunique is available from Atlas Powder Company, Wilmington 99, Del. The publication, issued in alternate months, presents helpful information on new and old uses of Atlas chemical products and Darco activated carbons written in non-technical fashion and illustrated with color cartoons.

Atlas Powder Company has also issued a 24-page booklet giving application data and chemical characteristics on sorbitol as used in various industries. The booklet, entitled The Sorbitol Story, contains tables, charts and text which define the composition and properties of various sorbitol products.

THEIR HIGH AIM IS HELPED by PNEUMATIC'S bottling efficiency

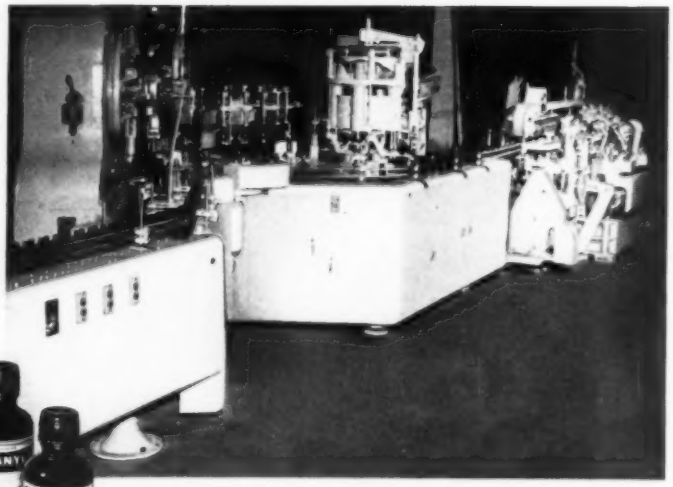
Providing curative and preventive medicines, for the better health of mankind, is the Parke, Davis purpose in life.

Keeping costs in line in the process of producing and packaging these health giving products calls for the highest standards of plant efficiency. That's where Pneumatic lends its helping hand.

Parke, Davis & Co. are the proud possessors of the very newest and most modern of Pneumatic machines — a close-coupled bottling line. This is virtually three machines — cleaner, filler and capper — in one. Hooked up to a Pneumatic Labeler, it provides a smooth, fast, compact arrangement for complete automatic bottling, at "lower cost per container."

It's another Pneumatic "first" — one of many that have established Pneumatic as the most versatile designer and builder of packaging equipment — for both dry and liquid products.

PNEUMATIC SCALE CORP., LTD.,
70 Newport Ave., Quincy 71, Mass.
Also: New York; Chicago; San Francisco; Los Angeles; Seattle; Leeds, England.



View of Pneumatic Close-Coupled bottling line in operation at plant of Parke, Davis & Co. in Detroit

PNEUMATIC

Packaging and Bottling Equipment

Management Forum

by Francis Chilson

INDUSTRIAL CONSULTANT

Popularism

Everyone seems to feel that a new word is needed to supplant the outmoded, maligned and misunderstood word "capitalism." Modern capitalism is indeed popular in the sense that it is enjoyed by so many people. Therefore my contribution is "popularism"—something that is approved, used and enjoyed by a great many people.

My blood boils whenever I read of intelligent, educated men accepting and promulgating the communist line. Occasionally it boils over as it did the other night when I was a dinner guest of the president of one of the big New York banks, and I blasted a university professor who made the asinine statement that ten families control or actually own 90 per cent of the capital of America. In no uncertain terms I told him exactly what I thought of such irresponsible statements and I labeled the statement as pure communist propaganda.

I told the professor that if he kept his eyes and his mind open he would know without consulting reference books how utterly ridiculous such statements are. I asked him to tell me how many cars there are in America. He guessed forty-five million. I asked him who owned them and he said, "everybody." I then nailed him with a fact. I said, "It is fair to assume that all these cars and trucks have an average value of $1000 each. That means a total value of forty-five billion dollars. Do you mean to tell me that any ten or any thousand people in American own or control that much capital." Then I asked him to guess at the number of private homes in this country. He guessed twenty million, which, when valued at five thousand each, comes to a hundred billion in the hands of a great many people. I asked him if he knew the number of savings accounts there are in America. More billions. And the number of life insurance policies, the cash surrender value of which represents more billions—all in the hands of millions of people.

My professorial friend was flustered and I am sure he thought me a little crude for slapping him so bluntly with a few omnipresent facts. One does not need to be an economist to refute communism. It is utterly refuted in the personal possessions, the living conditions and the pleasures of the average American. Among other things he drank nine billion dollars worth of beer and booze last year. I wonder where he got all that dough if, as the communists say, so few people control the majority of the capital and enjoy most of the income.

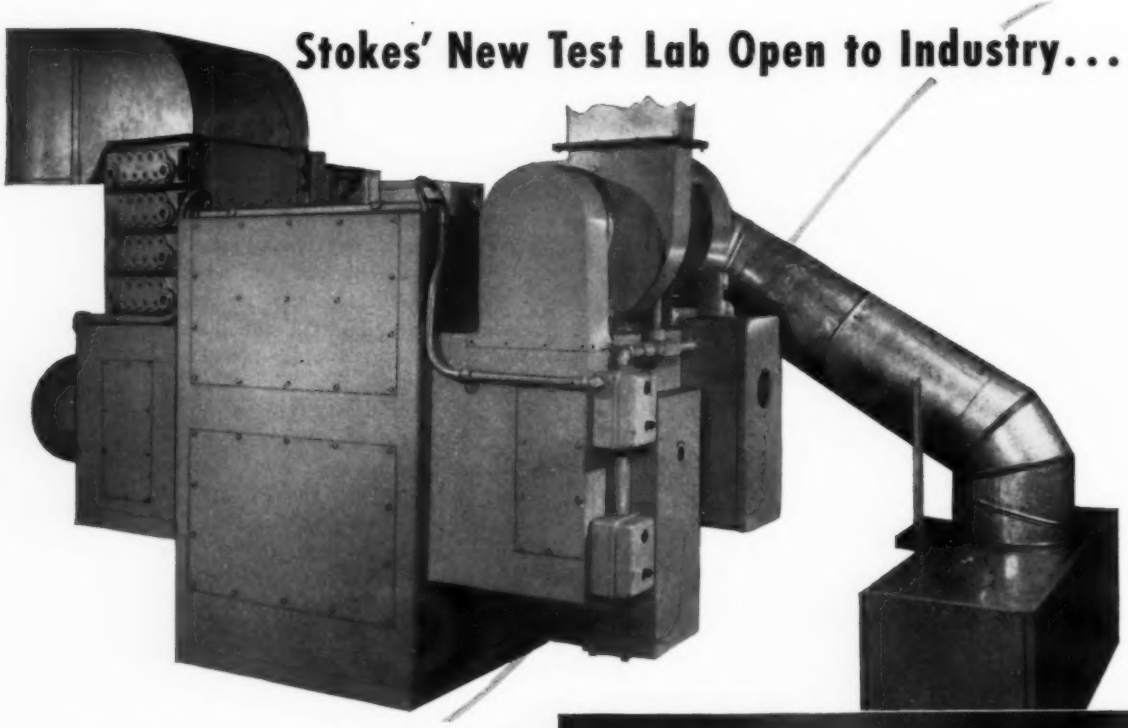
Why don't you get together some simple facts like these and print them on the pay checks issued every week to your people?

Damn Architects

I have come at last to a decision never again to take a job of new plant design unless the architect is made definitely subordinate to me. I am beginning to believe that there is no such thing as a competent, independent factory architect. Right now I am engaged in the most difficult job of my career: trying to salvage a new plant which was designed by a firm of fancy architects, aided and abetted by a world-famous industrial designer. It is a gorgeous looking mess. The plot layout is wrong; the buildings are of the wrong type and in the wrong places; the interior layout is a scrambled mess of sound and unsound functionalism. Mostly unsound. The investment per square foot of usable space exceeds anything I ever heard of. The materials of construction are superb for the most part but in many parts improperly put together. How would you like to pay an architect a fat fee who would permit columns to be installed in some instances out of line two and one half inches between floor and ceiling? What would you say to an architect who increased the height of one of the buildings by seven feet in order to get greater "dynamic mass" (whatever the hell that is)?

It goes without saying that I could easily have provided more usable floor space and saved at least a couple of million dollars had I been called in before the show was put upon the road. You may wonder why I took such an assignment. The answer is simple. The Bigboss

Stokes' New Test Lab Open to Industry...



A type CH Lectrodryer sends required quantities of DRY air to each test room in F. J. Stokes' new laboratory. Precise humidity and temperature control enables experimentation to proceed rapidly, regardless of outside weather conditions.

Closed to UNWANTED MOISTURE!

Complete facilities for testing and developing materials, equipment and processes are open to customers of the F. J. Stokes Machine Co., Philadelphia.

Recognizing that many projects demand precise humidity control, the Stokes Laboratory is equipped to eliminate unwanted moisture. The exact experimental atmosphere is metered to each test room by a Lectrodryer*. Humidity is preset, like the temperature, according to the need.

Perhaps controlled humidity is all you need to speed your production, keep delicate chemical reactions on the beam or to prevent moisture damage in storage areas. There are Lectrodryers removing unwanted moisture from air, gases and organic liquids to dewpoints below −110° F.

Write for help in adding DRYness to your processes: Pittsburgh Lectrodryer Corporation, 309 32nd Street, Pittsburgh 30, Pennsylvania.

In England: Birlec, Limited, Tyburn Road, Erdington, Birmingham.
In France: Stein et Roubaix, 24 Rue Erlanger, Paris XVI.
In Belgium: S. A. Belge Stein et Roubaix, 320 Rue du Moulin, Bressoux-Liege.

LECTRODRYERS DRY WITH ACTIVATED ALUMINAS

LECTRODRYER

*REGISTERED TRADEMARK U.S. PAT. OFF.

of the outfit is one of the finest persons I have ever known. Like most of the top men in the trade he is not a technical man and in this instance his architects and some of his technical people let him down. So I am in the thing up to the ears and cursing every minute. Cursing architects that is.

And I curse all the harder when I compare with this the plant I am building for another client just a few miles away. On this job we had no architect except the one employed as a staff man by the builder. The building will cost when completed considerably less than half as much per square foot as the other job. The quality of materials is just as good as in the former case. The appearance of the building is just as attractive as the other one but not as flashy. There are no stone walls built of Virginia green stone around this plant (At one hundred bucks a foot). There are no marble halls or plate glass doors. In my opinion a building can and should look beautiful inside and out but beauty resides as much in cheap materials as it does in the most expensive. All that is needed is imagination in the use of the materials.

Architects are nice guys. Period. Long ago the Austin Company, which probably has built more industrial buildings than any firm in the world, adopted a policy of refusing to work with independent architects. They had had their fingers burned often enough. Now if you want Austin you must use their staff architect or it is no go. Austin will work with process engineers or specialists. I have worked with this firm and it was a pleasure. They didn't try to tell me how to lay out a plant and I didn't try to tell them how to build it. We got along fine.

Roll Granulator

For several months past the roll type granulator which I invented several years ago has been in successful operation in the plant of the Chattanooga Medicine Co. Patents on the equipment and on the process are being processed. Black Draught both for packaging as granules and for use as tablet granulation for Black Draught tablets, are made with this equipment. This type of granulator eliminates the need for drying granulation. The material to be granulated is squeezed at high pressure between a pair of specially designed rollers from which it falls away in shreds of various lengths. Passage of these shreds through a conventional granulator produces a granulation with the right amount of fines for satisfactory press operation. Senna, which is the principal constituent of Black Draught is a difficult material to handle. It is very friable and at the same time springy.

The former process required that the material be moistened, pelletted, granulated and dried. The difference between the processes can be envisioned by the fact that the new process requires in its entirety less floor space than the dryer itself occupied.

The development work on this apparatus has been going on at Chattanooga for several years. Hence the set-up we have now is still a developmental set up. We use three sets of rollers fed by spiral conveyors because senna requires three compressions before a satisfactory granulation can be made. Chemicals granulate much more readily than vegetable drugs. Obviously a commercial unit could be built with the three sets of rollers mounted one above the others. The rolls are cored for coolant or steam.

I might mention in passing that one of the special types of roll surfacing was invented and, I believe, patented by Sam Noble of the Chattanooga Medicine Co. Chatanooga has not decided whether to build and sell the equipment themselves or license some machine builder. In any event I am sure Sam Noble, Vice President of Chattanooga will permit you to inspect the equipment in operation if you write him. Please send me a copy of your letter to same. I'd like to test the market for equipment of this type.

The following information is supplied by manufacturers of the equipment described and claims made below by these manufacturers are passed along for what they are worth. Presentation of such notice in this department is not to be taken as endorsement of the claims or of the equipment.

Plant Water Conservation

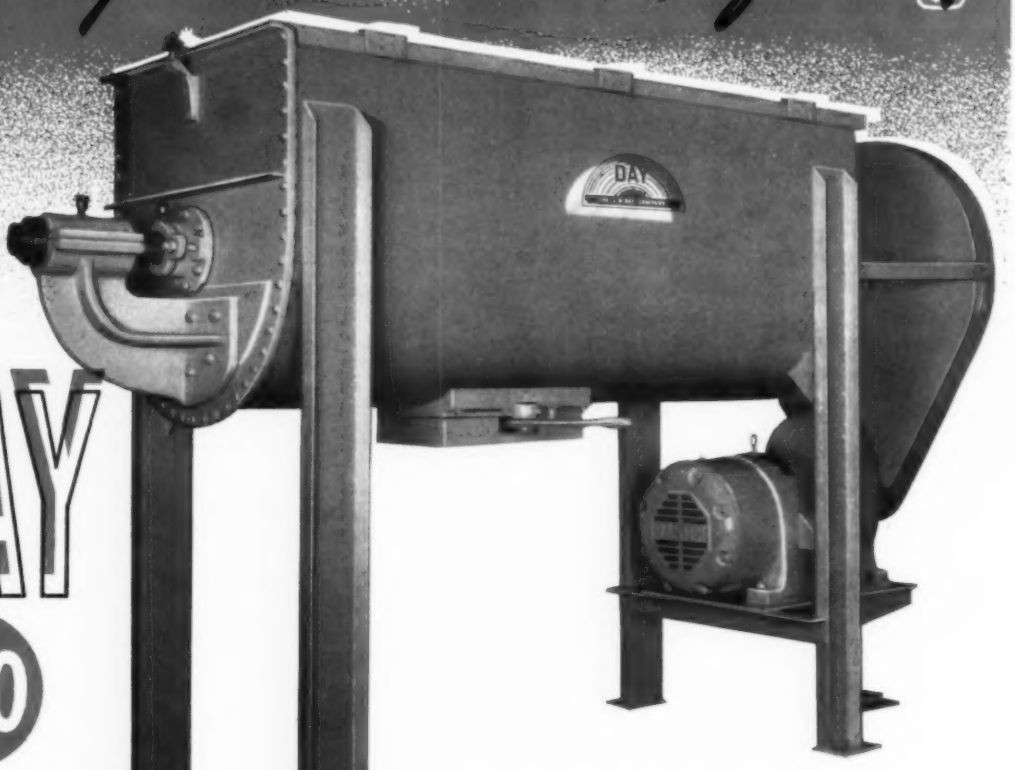
Manufacturing plants, in their constant efforts to reduce operating costs, are turning to a hitherto unrecognized source of saving . . . that of water conservation within the plant.

Before the recent program, little or nothing was done to conserve or reduce the cost of water. Because the major use of water is in the cooling of various machines, such water can not only be saved from constant flow when the machine is not in use, but it can also be recirculated in order to perform the cooling operation more effectively.

Atkomatic Solenoid Electric Valves used in conjunction with starting switches and thermostatic controls now control the water flow so effectively that it is used only when the temperatures build above a pre-determined level or when the machine is turned on for operation. Meter tests show that through thermostatically controlled Atkomatic Solenoid Electric Valves, 60 per cent to 70 per cent of the water is saved. This amount varies with the type of machine or the cooling operation performed. Air compressors, heavy presses and degreasers as well as spot welders are served by such an efficient system and in large plants the savings effected can run as high as $16,000 per year.

The savings made through the use of Atkomatic Solenoid Electric Valves is not only effected in dollars saved but in the conservation of our natural resources. Throughout the United States in the past few years numerous municipalities have been faced with water shortages which not only became grave, but which imperiled the safety of the community. Because of the enormous quantities of water used in industry, it is felt that more rigid control over our water supply

Blending Powders Pastes & Liquids?



DAY

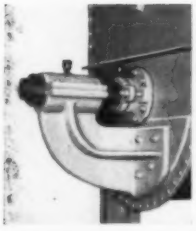
D-10

HEAVY-DUTY BLENDERS

do a finer, faster job!

DRY COLOR AGITATOR

for heavy bodied powders. Also available with Spiral Ribbon Agitator for paste, semi-paste, granular or liquid products.



OUTBOARD BEARINGS

provide extra shaft support, relieve stuffing boxes of bearing loads.

Whether you work with powders, pastes or liquids, you can depend on a DAY D-10 HEAVY DUTY BLENDER to give your production line a lift.

Scientifically designed agitators insure constant, thorough blending action. Sturdy outboard bearings provide ample support for the agitator shaft, remain free from abrasive action by the material being mixed and also eliminate bearing loads on the stuffing boxes. Dependable design includes a rigid frame, free from vibration, plain or stainless steel clad tank, and a geared head motor with silent chain drive. Discharge at center or either end is optional.

Call your J. H. Day Sales Engineer or write direct for details.

The J. H. Day Co., Inc., 1148 Harrison Ave., Cincinnati 22, Ohio

DAY

THE J. H. DAY COMPANY, CINCINNATI 22, OHIO

INCORPORATED • FOUNDED 1887

through the use of electrically actuated valves is the answer to the immediate effecting of great saving in our water supply. Municipalities are turning more attention to this problem and are suggesting that steps be taken in all ways possible to prevent the unnecessary waste of water.

In one plant alone, where a cooling operation formerly sent 1,000,000 gallons of water into the sewers, this program and emphasis now has reduced the loss to ¼ of the original figure.

Plant engineers can well look into the rigid controls of water flow to machines where cooling operations are performed. Such flows can be accurately controlled without waste through the use of Atkomatic Solenoid Electric Valves.

For further information on Atkomatic Solenoid Electric Valves, write to Atkomatic Valve Company, Department 65, 545 Abbott Street, Indianapolis 25, Indiana.

Veriloid

In Ancient Greece, doctors used a drug known as "Black Hellebore" as a cure-all for gout, paralysis and host of other ailments. And according to legend this same "Hellebore" was administered by the soothsayer and physician Melampus, as a means of curing the madness of the daughters of Proteus, King of Argos. However, it remained until only recently for scientists to master another "Hellebore," called Veratrum Viride.

In 1948, a group of scientists working in a laboratory in Los Angeles, were experimenting with the Veratrum root to extract various alkaloids. Their theory was that certain of these alkaloids found in the plant would have a hypotensive effect in high-blood pressure. After numerous and prolonged laboratory and clinical experiments they were successful in extracting the alkaloids which produce the desired hypotensive effect. In 1949, the Riker Laboratory was formed to produce the newly discovered drug—trade name Veriloid.

Actually the veratrum viride root contains many substances in addition to Veriloid, the hypotensive alkaloidal mixture which is only present as one-tenth of one per cent of the plant. To extract these desired alkaloids is an exacting process. The root, which grows wild in eastern United States, is shipped to the laboratory in one-hundred-pound bags. The processing begins with the grinding of the root, after which it is carried on a conveyor belt to the mixing tanks where the desired alkaloids are extracted through the use of an organic solvent.

The root and solvent mixture is then pumped out of the tank and spilled onto a fine wire cloth separator. To accomplish the intricate separation process, Riker Laboratory selected two 18″ separators designed and manufactured by the Southwestern Engineering Co., of Los Angeles. The two SWECO machines found to be highly effective and reliable, are equipped with a 200 mesh wire cloth to screen the root.

Operating with a very high separation efficiency

these two units use a vibrating motion to dispose of the extracted root via disposal ducts on the side of the machine. Able to process the mixture at the rate of 100 gallons per hour, the SWECO separators enable the laboratory to maintain a smooth, steady production continuity in the processing of the alkaloidal extract.

From the separators the solvent is passed off to a series of filters after which the liquid is concentrated to a thick syrup. Reaching the final processing step, the liquids are pumped into a vacuum dryer where it is concentrated further and dried to a powder. A series of samples from each lot are tested in dogs to insure complete pharmacologic uniformity in each run.

In the formulating room, this powdered Veriloid is mixed with excipients for tablets or with a saline solution for intravenous solutions.

Load Stabilizer

An Hydraulic-Powered Load Stabilizer, an attachment for Elwell-Parker fork trucks with capacities up to 6000 lbs., has been introduced by the Elwell-Parker Electric Company, 4205 St. Clair Ave., Cleveland 3, Ohio.

The unit is specially designed for safe transportation of unstable and semi-stable loads; it is also designated for stable loads which are subject to rough travel where they might be bounced off the skid or pallet on which they ride. In addition to carrying loads more safely, the Stabilizer will allow fork truck operators to stack at great heights with maximum safety.

Fork trucks, which accommodate the Stabilizer, are standard vehicles; the only alteration is to the hydraulic system to regulate the operation of the attachment. The shape or size of the Stabilizer plate may be altered to meet specific loads. Usually, the plate is faced with steel although it may be faced with rubber or wire mesh if desired.

The distance between the forks and the Stabilizer plate is 41-5/8″ minimum, 75″ maximum. The Stabilizer is powered by an hydraulic cylinder with a pair

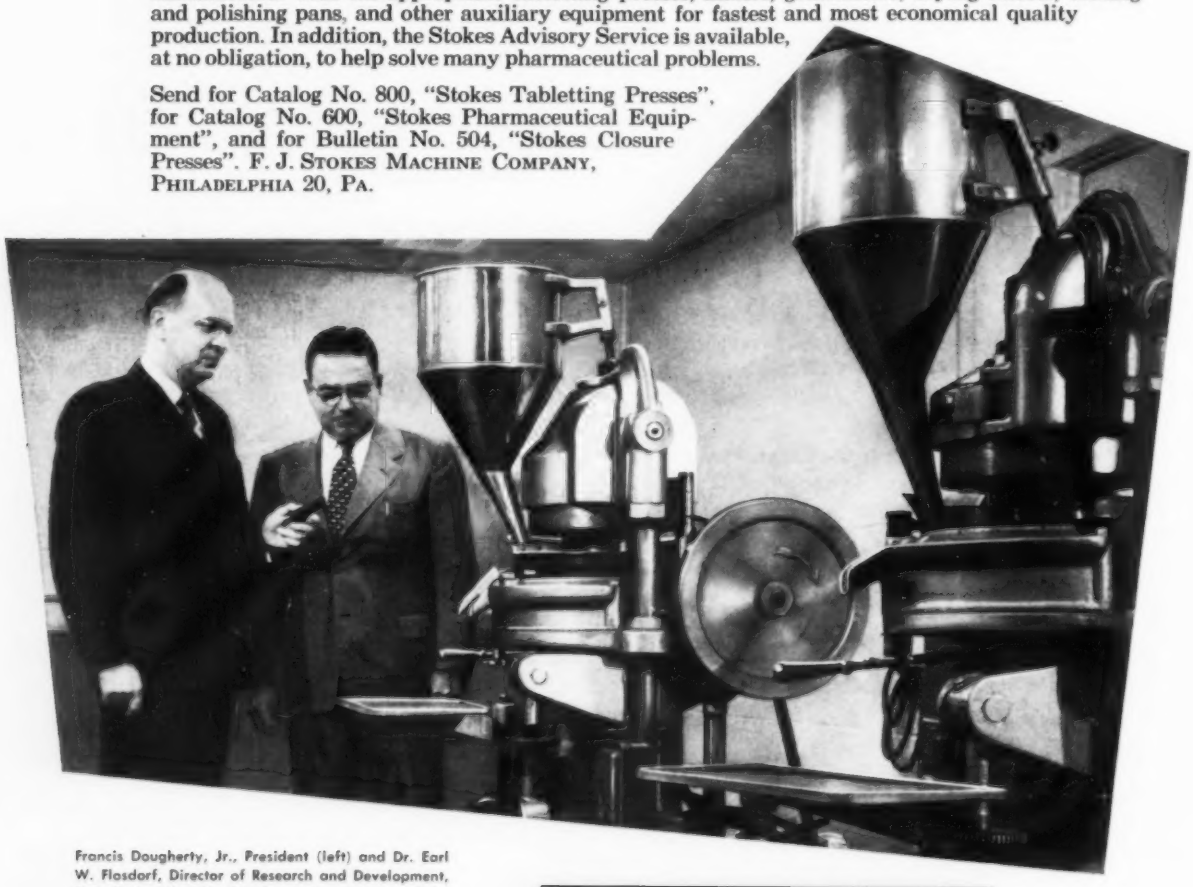
Stokes New Laboratory...Equipped to help solve your problems

Tablet formulas, punch and die design, procedures for mixing, granulating and coating pharmaceutical preparations . . . all are a part of the customer services conducted at the new Stokes Experimental and Applications Laboratory in Philadelphia. Representing an investment in excess of $150,000, the new laboratory occupies 2,800 square feet of floor space and consists of several groups of equipment devoted to tabletting, vacuum drying and processing, and plastics extrusion.

Each section of the new Stokes Laboratory is completely enclosed . . . actual production conditions are simulated through the use of independent controls for temperature and humidity. A large portion of the laboratory is devoted to pharmaceutical study . . . providing new ideas for increased production, lowered production costs, and improved product quality in the plants of existing and prospective Stokes customers.

For almost sixty years Stokes equipment has been used by leading firms in the pharmaceutical industry. Whether production is by the hundred or the million, Stokes can supply any manufacturer with the appropriate tabletting presses, mixers, granulators, drying closets, coating and polishing pans, and other auxiliary equipment for fastest and most economical quality production. In addition, the Stokes Advisory Service is available, at no obligation, to help solve many pharmaceutical problems.

Send for Catalog No. 800, "Stokes Tabletting Presses", for Catalog No. 600, "Stokes Pharmaceutical Equipment", and for Bulletin No. 504, "Stokes Closure Presses". F. J. STOKES MACHINE COMPANY, PHILADELPHIA 20, PA.



Francis Dougherty, Jr., President (left) and Dr. Earl W. Flosdorf, Director of Research and Development, F. J. Stokes Machine Co., inspecting a corner of the new Stokes Experimental and Applications Laboratory at the Stokes plant in Philadelphia. Machines shown are Stokes Rotary Tabletting Presses.

STOKES

STOKES MAKES: High Vacuum Equipment, Vacuum Pumps and Gages/Industrial Tabletting, Powder Metal and Plastics Molding Presses/Pharmaceutical Equipment

of telescoping guides to insure smooth operation plus rigidity. The control handle of the unit is located adjacent to the operator's right hand; the pressure gauge is mounted on the cowl of the truck in perfect view of the operator.

Clamping pressure can be varied to suit the product being handled within limits of 150 to 1350 psi. An hydraulic pressure blow-off valve is part of the system to prevent crushing the load due to excessive clamping after the pressure has been set.

Additional information about the Hydraulic Powered Load Stabilizer may be had by writing The Elwell-Parker Electric Company, 4205 St. Clair Ave., Cleveland 3, Ohio.

Universal Fork Truck

Development of the "Octopus"—a 4000 pound capacity fork lift truck outfitted with a special carriage and attachments to handle nearly a dozen different types of loads—has been announced by The Baker-Raulang Company, 1230 W. 80th St., Cleveland 2.

The "Octopus":—

Handles ordinary pallet loads.

Works as a side-shifting truck to spot loads in "tight" areas and close to columns and walls.

Hauls and stacks drums and paper rolls, using its clamps.

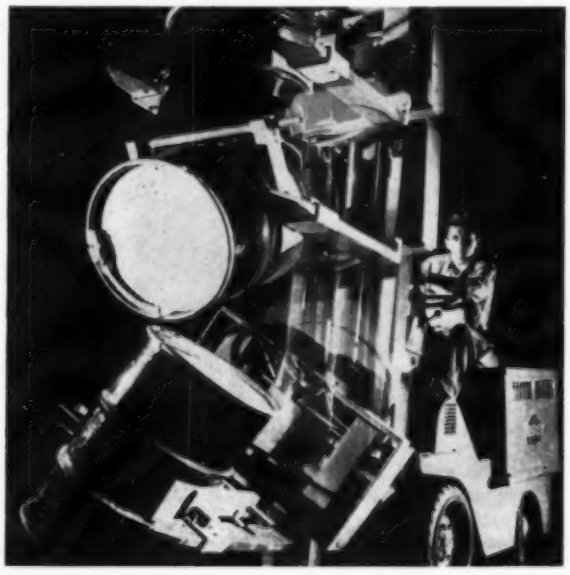
Dumps, hauls and stacks tote-box loads.

Picks up a variety of pallet sizes after automatically adjusting for proper fork-spacing.

Empties drumloads of bulk material by hydraulically tilting drums in a vertical plane.

Lifts bales of drugs with a new spike-clamp attachment.

Every plant using fork trucks in its handling system does at least one of the jobs handled by the "Octopus." And it usually takes two or three trucks to handle several load-types. Baker engineers think this is the first time one truck does them all.

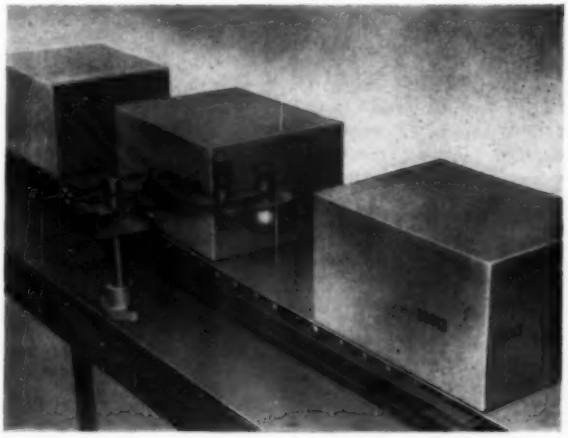


The assortment of loads is handled non-stop, with just two short pauses for adjustments to the carriage and forks.

The "Octopus" is a standard battery-powered fork truck equipped with the Baker 4-Purpose carriage. It uses four attachments: a revolving head (semi-permanent), drum clamps, hydraulic drum up-ender and clamp-spikes, all detachable in two minutes.

New Marking Device

The Rolacoder 500 Imprinter is a new friction-operated device for marketing simultaneously both the front and a side of shipping cases with code-dates, lot numbers and other identifying marks. The marks are



automatically imprinted on both surfaces of cases as they move along a conveyor line, through a sealer or in some other production operation. The advantage afforded by the new marker is that, without any additional time or effort, and without requiring that they be turned, shipping cases may be marked on two different panels to doubly facilitate their identification when stacked or palletized.

The new Rolacoder machine automatically repositions itself after imprinting each case so that marks on successive cases all appear in identical locations. Marks may consist of one line of copy containing up to eight letters or figures in bold ½"-type. Copy changes, it is said, can be made in a matter of minutes and the machine's unique new visible ink reservoir has a capacity sufficient for more than eight hours of continual operation.

Complete details about the Rolacoder 500 may be obtained from the maker, Adolph Gottscho, Inc., Hillside 5, N. J.

Demineralizer

Penfield's new MA Model Demineralizers operate on the extremely efficient and economical *mono-column* method: cation and exceptionally strong anion exchangers intimately mixed in a single unit tank through which the raw water is passed only once.

The *special feature* of the new MA Model is the

SPEEDS PRODUCTION

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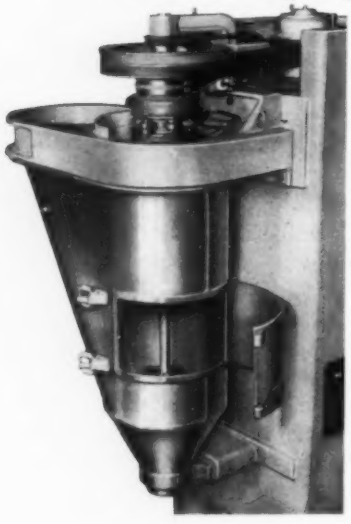
Packing against Pressure
3
Combination Auger and Vacuum
4
Gross Weighing



Quiet operation is a feature of the E G Filler. View at left shows how V Belt drive and magnetic clutch assure positive silent drive.

View at right shows how all mechanical parts of the E G Filler are mounted above the filling station for easy accessibility and inspection.

Whether your plant is large or small, if your product requires filling by any of the four methods listed, the new Stokes and Smith E.G. Universal filler is your prescription for increased production, more accurate control, and greater flexibility—all at lower cost.

This new filler is chock-full of engineering innovations that mean increased efficiency and greater accuracy in your work.

40% less working parts
No cams or sprockets. Self-adjusting magnetic clutch. Planetary gears totally enclosed for exceptionally quiet performance.

Mechanical Parts Located above filling station
Keeps parts cleaner; reduces down-time for maintenance. Gives a more streamlined appearance.

More Accurate control possible
Micrometer adjustment. Fingertip changeover. Auger speed adjustable from 500 to 1000 RPM. Table adjustable for different heights of containers. Can be pre-timed to pace operator.

Compact Size
24" wide, 31" long, 7'7" high.

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completely automatic performance of all functions, including the regeneration cycle. Whenever the effluent's conductivity (purity) falls below pre-set standard, the treated water is automatically discharged and signals indicate the need for regeneration. Turning but one switch then puts the unit into its complete regeneration cycle, including rinsing and re-cutting in effluent when desired purity standards are reached and refilling regeneration tanks with fresh water in preparation for the next required regeneration cycle. As can be readily appreciated, this fully automatic feature contributes important savings of operating time, trouble and money while also insuring highest efficiency performance.

You may secure copies of this new Penfield MA Model Catalog Sheet by writing Mr. Edward H. Clohessy, General Manager, Penfield Manufacturing Co., Inc., 19 High School Avenue, Meriden, Conn.

Truck Dock Adjuster

A four-page brochure, illustrating and describing its ADJUST-A-DOCK and ADJUST-A-TRUCK is available from Rowe Methods, Inc., 2534 Detroit Ave., Cleveland 13, Ohio.

Both units are designed to increase handling efficiency on shipping and receiving docks. The ADJUST-A-DOCK bridges the difference in height between docks and rail cars and highway trucks, so that goods flow directly to and from the building and the carrier. The unit can more than triple freight-handling capacity, cutting handling time by maintaining proper carrier and dock alignment at all times. The ADJUST-A-DOCK can be installed recessed in the dock or in front of the dock as required.

The ADJUST-A-TRUCK is ideal for those firms who do not have adequate room on their docks or in front of their docks to install adjustable dock ramps. The unit is set into the pavement in front of the dock and by means of a heavy-duty electric hydraulic system, to adjust each vehicle to dock height. Its capacity, 40,000 lbs.

The free literature contains application photos, photos of main components, engineering drawings, specifications, operating and construction features, and other data.

Copies of this brochure may be had by writing Rowe Methods, Inc.

Package Machinery Labeler

Package Machinery Company's new Thrifty Automatic Labeling Machine is a continuous-motion straight-line machine that has a speed of up to 120 containers a minute and offers an exceptionally wide size range. It will label a gallon jug and a 4-ounce bottle. It can be fed by hand as well as automatically fed. The method by which the label is applied permits the containers to be dry or moist, hot or cold, without affecting the firm sealing of the labels. Almost any type of label can be used—rectangular, round or fancy cut; in paper, foil, glassine, etc.

Labels may be applied to recessed bottles and containers of unusual shape—a glass mug, tumbler, salt-and-pepper bottle, for example.

Stainless Steel Tanks

A new bulletin is available showing the range of Rodney Hunt engineered stainless steel fabrications. Particular attention is given to stainless steel tanks of standard and special construction in a wide range of sizes. A simplified quotation request sheet with detailed standard specifications is included.

With a large, modern shop exclusively for this stainless steel work, Rodney Hunt is able to handle stainless steel fabrication from small vessels to complex equipment for textile paper, chemical and other industries.

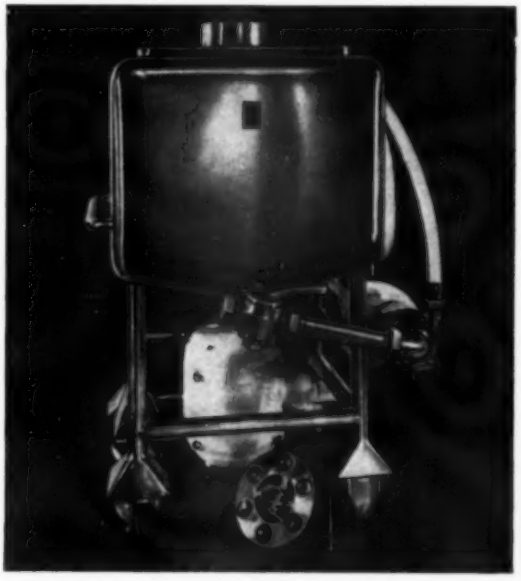
Write for bulletin No. 153, Rodney Hunt Machine Company, 53 Mill Street, Orange, Mass.

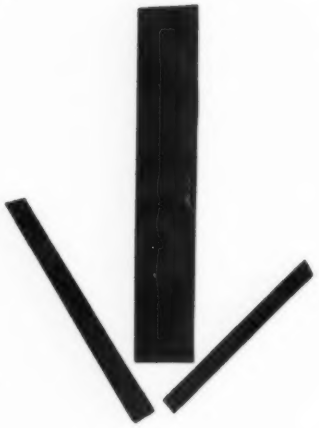
High-Speed Mixer

Cherry-Burrell Corporation has been named exclusive distributor for the Norman Mixer—a high speed, stainless steel mixer for blending liquids, dissolving powders, etc. In many instances, thorough blending of a 50 per cent mixture of liquid and powder can be accomplished in minutes. Uses include the mixing of such products as yeast, milk powder, eggs, chemicals, solidified sugar, hot cake batter, ice cream mix, mayonnaise, French dressing, and dehydrated eggs.

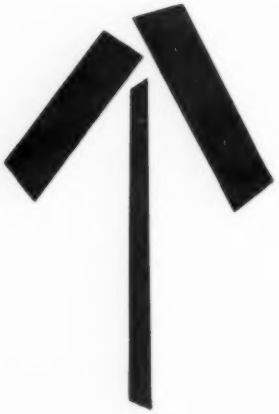
This unit is similar in design to the standard laboratory blender, but is manufactured of stainless steel on a larger scale. Mixing action is accomplished by a six-fluted agitator driven directly by a 1750 RPM motor. Mixer is all stainless steel except the motor and certain wear parts.

Standard capacities are 8, 15, 25, 50 and 75 gallons. Both stationary and mobile units can be supplied. Laboratory facilities are available for testing new products.





Cachalot® brand cetyl, oleyl, or stearyl alcohols always meet your specifications because they're *Vacuum-Distilled.* And these fatty alcohols often cost less than the materials they replace. For a booklet full of new ways to use Cachalot® write M. Michel and Company, Inc., 90 Broad Street New York 4 N. Y.



Readers' Questions

BATH PREPARATIONS: Can you give me information on a bubbling bath tablet formula, wafer style? I would also appreciate a formula covering bath crystals. Grand Rapids.

A very simple preparation for bath salts consists of:

Sodium sesqui-carbonate	**99.0 per cent**
Perfume and color	**1.0 " "**

Spray on color and perfume while mixing.

With regard to a tableted preparation, I think the following formula for an effervescent bath tablet will serve your purpose:

Sodium bicarbonate	**55.0 per cent**
Tartaric acid	**20.0 " "**
Sodium sesqui-carbonate	**20.0 " "**
Perfume and color	**5.0 " "**

Dry all the ingredients thoroughly. Mix and add perfume. Compress and spray the color in alcoholic solution on the finished tablets.

CETYL AND STEARYL ALCOHOLS: Do you have any information on the use of cetyl and stearyl alcohols with sodium lauryl sulfate to form various emulsions? Any data will be appreciated. New York City.

These alcohols have been used extensively in the preparation of various shampoos. For example, cetyl alcohol serves both as a stabilizer and a whitening agent in such preparations and it is considered to be especially valuable for liquid cream shampoos. Stearyl alcohol is also used for such purposes. Cetyl alcohol has been used with sodium lauryl sulfate in the preparation of acid creams. For example, an acid cream can be made from:

Cetyl alcohol	**15.0 per cent**
Spermaceti	**5.0 " "**
Sodium lauryl sulfate	**2.0 " "**
Lactic acid (85 per cent)	**1.2 " "**
Water	**71.8 " "**
Glycerine	**5.0 " "**

Melt the cetyl alcohol and spermaceti at 50°C. and then add the lauryl sulfate. Stir until the mixture is homogeneous. Add to 50 parts of the water at the same temperature and stir vigorously. Rapid stirring must be continued until a uniform emulsion has been formed. Stir slowly until the mixture begins to thicken and then add a warmed mixture of glycerine, acid and the remainder of the water. Stir until cold. Procedure may be varied to suit the convenience of the manufacturer.

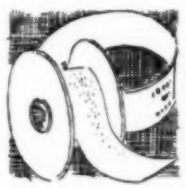
Another soft, stable cream can be made according to the following formula:

Cetyl alcohol	**15.0 per cent**
Sodium lauryl sulfate	**1.5 " "**
Lanolin	**1.5 " "**
Lactic acid (85 per cent)	**1.0 " "**
Water	**81.0 " "**

Melt the cetyl alcohol and lanolin together and add to the hot solution of sulfated alcohol in water. Stir until emulsification is complete, add acid and stir until cold.

SELF - NEUTRALIZING COLD WAVE PATENT: Could you send us any details on the subject of preparing a self-neutralizing cold waving hair preparation? Any information that you can give me on the subject of cold ware neutralizers will be very much appreciated. Christchurch.

As we have pointed out on several occasions, this process is covered by U. S. Patent 2,540,980, issued to Den Beste & Reed, on February 6, 1951. A copy of this patent with all the pertinent information is available from the Commissioner of Patents, Washington 25, D. C., at a cost of 25 cents in coin. As you are probably aware, articles on cold wave neutralizers appeared in our January and February issues.



ADHESIVE TAPE REMOVER: Will you please supply us with formulas for non-inflammable, non-irritating adhesive tape removers? Pittsburgh.

Perhaps the simplest adhesive tape remover consists of oil of wintergreen (methyl salicylate). It provides a simple, painless and highly efficient means of removing adhesive tape from the skin. The oil is applied at the point of separation of the adhesive from the skin. Another simple preparation for use as an adhesive tape remover consists of a mixture of pure carbon tetrachloride containing about 20 per cent of white oil. If desired, up to 10 per cent of alcohol may be included.

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ease of use

dependable results

solving difficult emulsifying problems

TEGACID

Why Not Give It A Whirl?

The gyroscope symbolizes stability in motion. TEGACID stands for stability in emulsions.

A Glyceryl Monostearate, acid emulsifying. Widely used in anti-perspirant-deodorant creams, lotions, ointments—in all greaseless medicated formulations. TEGACID produces stable emulsions with acidity as high as pH 2.3.

We will be glad to send you complete technical data about TEGACID.

Other Dependable Goldschmidt Products Include

Tegin Emulsifiers • Tegosept Preservatives
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Advancing Therapy

Aureomycin in Tooth Extraction Wounds

The potential value of the local implantation of aureomycin in tooth sockets after extraction is indicated in the report of R. L. Verbic (*J. Am. Dent. Assoc.* 46:160, 1953). His clinical observations and statistical evaluations indicate that soluble aureomycin tablets (50 mg.) reduced the incidence of decomposition of blood clots in sockets and also lessened the incidence of postoperative pain and swelling at the one-week interval. Clinical evidence of foreign body reaction was not observed, and the presence of particles of the soluble aureomycin tablets used did not seem to delay healing. There was no evidence of a toxic reaction resulting from the local implantation of the soluble aureomycin tablets. The simplicity of application of the method of administering aureomycin tablets makes its use practical for any dental practitioner.

Hypersensitivity to Lanolin

As a result of their studies of skin-hypersensitivity to lanolin, M. B. Sulzberger, T. Warshaw and F. Herrmann (*J. Investig. Dermat.* 20:33, 1953) reported that 12 of 1,048 (1.14 per cent) subjects with a variety of established or suspected allergic skin diseases showed positive reactions to patch tests with pure lanolin from two different manufacturers. It is significant, however, that no positive patch tests were obtained with lanolin in 120 healthy subjects. Inunction of lanolin on the uncovered skin produced a positive reaction in only two of 18 individuals hypersensitive to patch tests with lanolin.

In confirmation of previous studies, patch tests with different fractions of lanolin showed that the allergenic material was present in the mixed alcohols. In addition, the tests afforded direct evidence that the active allergenic material resided in the fraction containing the aliphatic alcohols of lanolin. Of the aliphatic alcohols identified in this fraction, thus far only cetyl alcohol has been available for skin testing. It produced a positive patch test response in two of the 18 reactors to lanolin.

Acetylated or "propionylated" lanolin evoked a significantly lower incidence of positive skin reactions than did the unaltered product. Of 12 subjects with positive patch tests to lanolin, 11 showed a positive patch test to the aliphatic alcohol fraction; but only one of these reacted to this same alcohol fraction after its acetylation. It appears probable that one or more of the aliphatic alcohols of lanolin are largely responsible for the observed hypersensitivity; for their denaturation through esterification resulted in reduction or abolition of the allergenic capacity.

Compound F in Dermatology

Further results of the use of topically applied hydrocortisone (compound F) acetate ointment have been reported by M. B. Sulzberger, V. H. Witten and C. C. Smith (*J.A.M.A.* 151:468, 1953). In their latest study, 62 patients with selected dermatoses were chosen for therapy with topical application of hydrocortisone acetate ointment. Hydrocortisone acetate ointment was found to be of definite value in the management of atopic dermatitis, as demonstrated by the eminently satisfactory results in 20 of 30 cases. Although only a very few cases of pruritus vulvae and ani were treated, it is noteworthy that three of five patients were benefited by hydrocortisone acetate ointment. These cases were of prolonged duration, and many other forms of therapy had failed to help. In several cases lichen chronicus simplex, nummular eczema, and distinctive exudative discoid and lichenoid chronic dermatosis (Sulzberger-Garbe) were also improved to some degree. In the concentrations used and under the conditions of the study the hydrocortisone acetate ointment was of no value in the treatment of psoriasis, chronic discoid lupus erythematosus, pemphigus vulgaris, and alopecia areata.

In cases in which the response was favorable, improvement occurred within 48 hours to one week after treatment was begun. Beneficial effects generally wore off within four to five days after application of the hydrocortisone acetate ointment was discontinued. Hydrocortisone acetate ointment is a valuable adjunct in the management of certain dermatoses, particularly atopic dermatitis. It offers obvious advantages over the systemic use of cortisone and corticotropin (ACTH), in that, while it is not as dramatic in producing its beneficial effects, the adverse effects are apparently obviated.

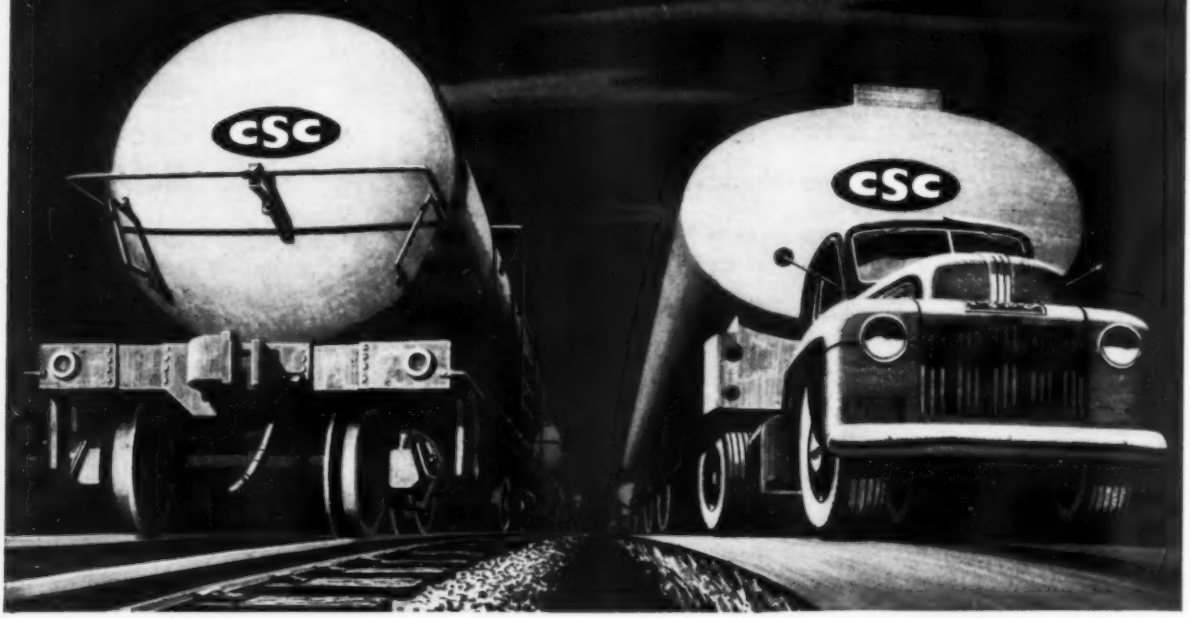
Vitamin B_{12} in Asthma

Good results were obtained by M. Caruselli (*Riforma Med.* 66:849, 1952, through J.A.M.A. 150:1731, 1952) with vitamin B_{12} in 10 of 12 patients with asthma to whom the vitamin was given daily in doses of 30 mg. for 15 to 20 days. In six of the patients, the disease was due to bacterial allergy. Symptoms improved, the asthmatic attacks ceased, and there was a pronounced improvement in general condition, with weight gains. This therapy also cured severe constipation in one patient and dyspepsia due to hyperacidity in another. An antiallergic action of the vitamin is suggested. A recurrence in two patients after three and eight months, respectively, subsided when the vitamin was given again. Two patients in whom asthma was associated with circulatory decompensation and whose condition was aggravated by strophanthin and digitalis improved with vitamin B_{12}. This result may be due to an improvement in hemodynamics and oxygenation of the blood or, more likely, to a direct action of the vitamin on the nutrition and function of the myocardium. The two patients in whom this therapy failed were old persons in whom asthma was associated with severe pulmonary emphysema and hypertensive arteriosclerosis. In these patients the disease may no longer have been due to active allergic factors but to irreversible anatomic and functional changes.

Isoniazid in Hansen's Disease

Although it is comparatively rare in the United States, Hansen's disease (leprosy) is still a problem in many parts of the world, especially in tropical countries. It is estimated that about five million people are afflicted with it. Hopes that isoniazid, the antituberculosis drug, may be effective against

CSC ETHYL ALCOHOLS and DERIVATIVES ...Ready to Roll from Coast to Coast



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Over the supply lines of America move the CSC fleet of tank cars and tank trucks, bringing these essential chemicals to industry from its nationwide network of strategically located plants and distribution points...ready to offer you unsurpassed service.

CSC ethyl alcohols are available in all formulas and grades to meet the most exacting requirements of the pharmaceutical and industrial trades.

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Write or phone Commercial Solvents Corporation, Industrial Chemicals Division, 260 Madison Ave., New York 16, N. Y. for full information.

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Dibutyl Phthalate	Formaldehyde N.F.
Tributyl Phosphate	Pentaerythritol
Methanol	Acetone
Ammonia	Methylamines

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AMMONIA • NITROPARAFFINS • SOLVENTS • PLASTICIZERS • INTERMEDIATES

Hansen's disease are raised by the report of results obtained by F. Latapi and J. B. Rubio. In a paper presented before the American Society of Tropical Medicine (through *Chem. & Eng. News* 30: 4968, 1952) they described the clinical findings of a nine-month clinical trial on 14 patients.

Each patient received an oral dose of 200 to 300 milligrams of isoniazid daily. In 13 of the 14 cases, lumpy nodules under the skin and sores in nose and eye areas which characterize Hansen's disease were reduced in size and number. In some cases, these symptoms disappeared almost completely. Laboratory examination of tissue samples after treatment showed a reduction in the number of bacilli (*Mycobacterium leprae*) present in infected tissue. None of the patients exhibited serious side effects from the use of isoniazid and only in half the cases was the so-called lepra reaction, often a serious problem following chemotherapy of this disease, noted. In these, the lepra reaction was mild.

Chlorophyll in Otorhinolaryngology

The value of chlorophyll as a deodorant in otorhinolaryngology is indicated in the report of K. Becker (*Munch) Med. Wochnschi*, 94:2225, 1952, through *J.A.M.A.* 151:593, 1953). Chlorophyll derivatives were given orally to the patients in the form of tablets of 0.1 Gm. and 0.05 Gm. or in powder form. The dosage varied with the individual patient and the cause and degree of the fetor. As a rule, one to two 0.1 Gm. tablets were given one to three times daily. In cases of halitosis associated with carcinoma of the tonsils or with aphthous stomatitis, objective deodorization was obtained after ingestion of the second 0.1 Gm. tablet; this deodorizing effect could be maintained by continued administration of one tablet three times daily. In less severe conditions of the tonsils or the teeth, satisfactory results were obtained with one 0.05 Gm. tablet given three times daily. Two 0.1 Gm. tablets three times daily were required to suppress the offensiveness of the breath in a patient with massive penetrating tonsillar abscesses. Nasal fetor was reduced significantly by oral administration of 0.1 Gm. three times daily in a patient with syphilitic ozena. Similar observations were made in patients with temporary halitosis after surgical intervention on accessory nasal cavities or tonsillectomy, or during prolonged tamponade of the nose or accessory cavities. A viscous suspension of pulverized pure chlorophyll was employed for the filling of the maxillary sinuses in patients with fetid suppuration of the accessory nasal cavities. After the first filling the fetor disappeared from the secretion of the nasal cavity. Local application of chlorophyll preparations were less effective in cases of ill-smelling tissue or cartilage necrosis. Single doses of 0.5 to 1 Gm. of chlorophyll were required to obtain a deodorizing effect in persons with tobacco and alcohol breath. The mechanism of this deodorizing effect has not yet been established.

Amicetin—New Antibiotic for TB

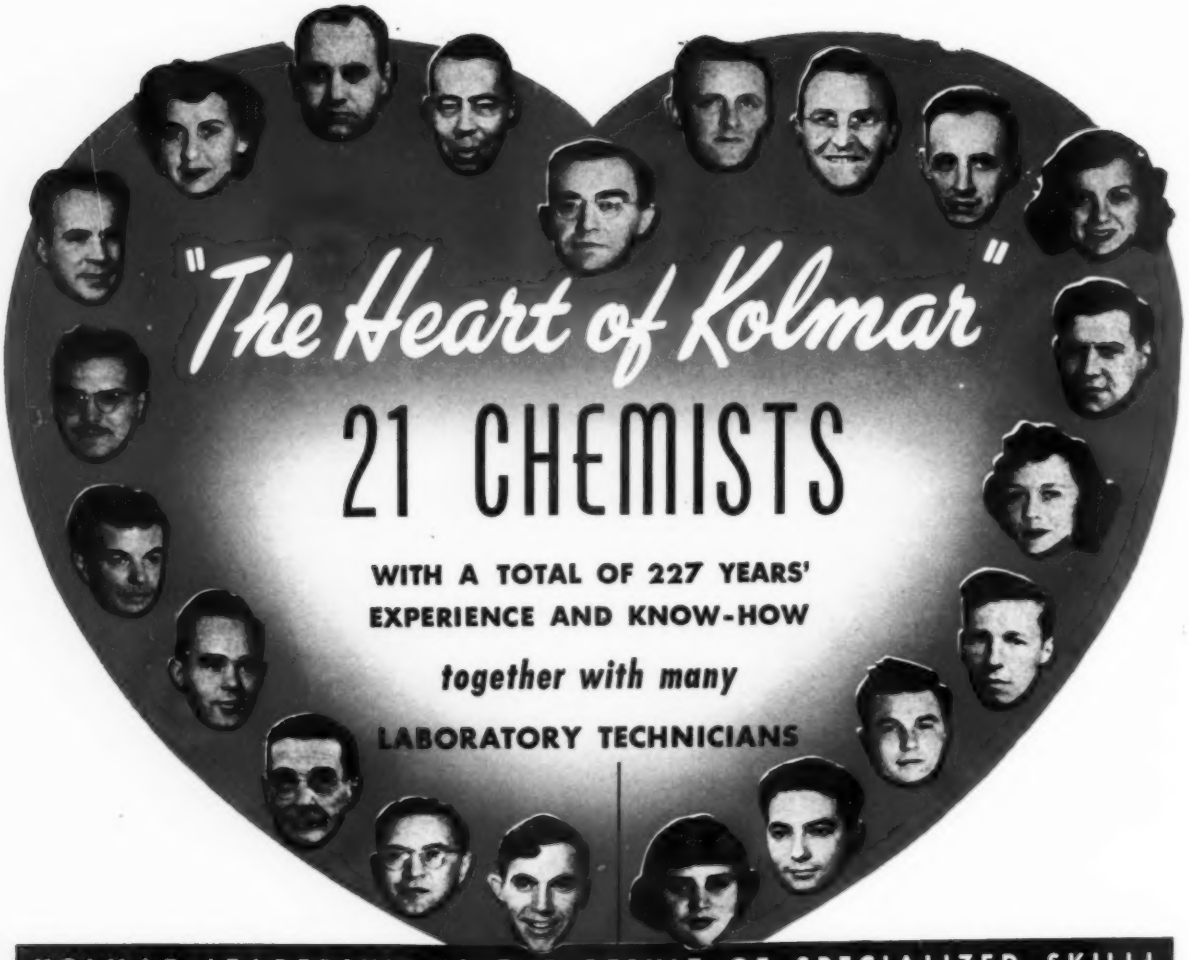
The extraction, purification and properties of amicetin, a new antibiotic showing a high order of activity against acidfast bacteria, has been discussed by J. W. Hinman, E. L. Caron and C. De Boer. In their report to the 123rd meeting of the American Chemical Society they stated that amicetin is produced by *Streptomyces vinaceus-drappus* when grown in submerged culture on media containing suitable carbohydrate, organic nitrogen, and mineral nutrients. The production and extraction of amicetin were measured using a disk-plate assay procedure employing *Mycobacterium avium* as the test organism and using pure streptomycin sulfate as the standard. The activity was removed from the filtered fermentation liquor by extraction with *n*-butanol at pH 8.5 to 9.5. The amicetin-rich butanol solution was extracted with dilute sulfuric acid of such strength as to give a final aqueous solution at pH 2. These operations were repeated to concentrate the antibiotic in a small aqueous volume, which, when brought to pH 8.5, deposited the low-melting crystal form of amicetin. Crystals obtained in this manner were found to be 70 to 90 per cent pure by countercurrent distribution analyses. Further purification was effected to convert the antibiotic to the granular, high-melting crystal form.

Amicetin, so obtained, melted at 244-245°, had a specific rotation of +116.5° and appears to have the molecular formula $C_{29}H_{44}N_6O_9$. In the dry state and in solution at pH 6 to 7 at room temperature, amicetin is stable for months. Activity is lost slowly when the antibiotic is dissolved in 0.1 *N* mineral acid or alkali at room temperature, and much more rapidly at elevated temperatures. A number of salts and derivatives of amicetin have been prepared.

Amicetin is active against virulent human *Mycobacterium tuberculosis* including a streptomycin-resistant strain *in vitro* and *in vivo* in mice.

Antacid Evaluation

F. Steigmann, L. L. Hardt and S. Hyman (*Am. J. Digest. Dis.* 19:310, 1952) have made a study to distinguish between fact and fancy in the use of antacids. In their work fasting ulcer patients were intubated with a Levine tube and their gastric contents were evacuated. Thereafter, the stomach contents were aspirated at 15 minute intervals until three additional samples were obtained. Then the subjects were given 0.1 mg. of histamine per 10 kg. of weight, and the aspirations were continued every 15 minutes for another 75 minutes. The next day the procedure was repeated, but the subjects were given an antacid by mouth simultaneously with the histamine injection. Twelve groups of antacids, a total of 37 drugs, were studied. Of the purely alkali substances, magnesium hydroxide and Sippy no. 1 powders had the greatest and longest action. Two cellulose substances showed acid neutralizing ability when combined with magnesium oxide, but alone they were only moderately effective. Some of the colloidal aluminum gels had a decided but short and others a moderate and prolonged antacid effect. Combinations of alkali with antisecretory substances were slightly more effective than other antacids. Some of the amino acid combinations had considerable and others only a minor antacid effect. Plant mucin produced a marked and prolonged antacid effect, and the addition of animal mucin increased this effect. Tissue extracts, such as duodenal mucosa extract, had a marked but short antacid effect, while enterogastrone given orally had no effect. Methantheline (Banthine) alone had no antacid effect. In keeping with the observation that the alkalis are efficient antacids, some proprietary combinations of alkali and magnesium trisilicate gave good immediate antacid results but also created rebound acidity. Clinical observations in association with the antacid studies indicate that some substances are better tolerated than others and thus produce at times better results, despite the fact that they do not produce complete neutralization of gastric acidity in the laboratory. The investigators do not agree that some antacids are greatly superior to others. The ideal antacid has not been found.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Compounder's Corner

Massage Creams

It is pointed out in *Soap, Perfumery & Cosmetics* (25:938, 1952) that there is little practical guidance to be found in the existing cosmetic literature in regard to the formulation of massage creams. From the viewpoint of the masseur, different types of massage call for different types of cream or oil. Thus, for the purposes of light massage, an ordinary cleansing cream will be found suitable. For use on wrinkled and dry, aged skins, there is something to be said for liquid emollient emulsions and for light or medium viscosity massage oils. For more vigorous massage, as of the back and spine, the masseur frequently demands a cream that will combine a certain amount of lubrication with a definite "grip" for the finger-tips. This may call for the use of a stearate, stearic acid, caseinous or methyl cellulose-containing cream; a modified, heavier version of the standard cleansing cream, or a slightly more emollient adaptation of vanishing cream.

Several formulae are presented for selection or adaption for use in accordance with individual requirements. Illustrative is a massage cream consisting of:

Mineral oil, white	**14.0 parts**
Stearic acid	**18.0 "**
Triethanolamine	**1.2 "**
Borax	**0.4 part**
Propylene glycol	**5.4 parts**
Water	**61.0 "**

Melt the stearic acid in the mineral oil. Bring the temperature to 70° C. Heat the water also to 70° C. and add the triethanolamine and borax. Add the first to the second batch, with constant stirring. When a smooth emulsion is obtained, add the propylene glycol, to which the perfume has been added. When the cream becomes smooth and heavy, reduce the speed of stirring until the finished batch has cooled.

Another type of massage cream, illustrative of the lanolin-based preparations, is made from:

Lanolin absorption base	**34 parts**
Wool wax, light color	**4 "**
Beeswax, white	**5 "**
Mineral oil, medium viscosity	**27 parts**
Distilled water	**30 "**

The molten fatty materials are thoroughly mixed together at the lowest convenient temperature and the water then added gradually, incorporating each portion homogeneously before the next is added.

It is noted that the older type of casein-based "rolling" cream is tricky to make, is apt to vary from batch to batch, and is difficult to preserve. Starch and methyl celluloses are better, with a slight preference perhaps for the latter because of their stability and freedom from fermentation. A typical massage cream with such a component may consist of:

Stearic acid	**10.0 parts**
Mineral oil	**6.0 "**
Glycerine	**4.0 "**
Borax	**0.5 part**
Ammonia (0.97 s.g.)	**1.0 "**
Perfume	**0.5 "**
Methyl cellulose solution (10 per cent)	**78.0 parts**

The methyl cellulose in this preparation remains on the skin after application and may be rubbed off by intensive massage, carrying with it a good deal of dirt, grease and surface skin debris.

A starch-containing massage cream may be made from:

Stearic acid, triple pressed	**9.0 parts**
Cocoa butter	**1.0 part**
Wheat or corn starch	**14.0 "**
Borax, powdered	**2.5 "**
Glycerine	**3.0 "**
Ammonia (Sp. gr. 0.97)	**1.0 part**
Water, distilled	**66.5 parts**

It is also noted that waterless salves and mixtures of oils, fats and fatty esters are sometimes advocated as rubbing preparations for body massage. Typical preparations of this type are given in the two formulae following:

I

Sunflower seed oil	**60 parts**
Lanolin, anhydrous	**3 "**
Mineral oil, light	**37 "**

II

Sperm oil, refined	**40 parts**
Isopropyl myristate	**20 "**
Mineral oil	**40 "**

With respect to facial massage preparations, it is stated that fatty preparations are sometimes used but that a true cream or emulsion is generally to be preferred. It may be based on the cera emulcificans (lanette wax S X) type of emulsifying agent or on glycol stearates, ethanolamine stearates, unguentum aquosum, etc. A few per cent of glycerine is often helpful, as well as a proportion of distilled witchhazel extract or camphor water etc. in the aqueous phase. To prevent undue dragging of the facial skin, an emollient liquid cream may sometimes be preferred. A liquid preparation for massage use may consist of:

Stearic acid, triple-pressed	**2.3 parts**
Lanolin, anhydrous	**2.0 "**
Vegetable oil	**15.0 "**
Mineral oil	**24.0 "**
Triethanolamine	**1.0 part**
Glyceryl monostearate S.	**1.0 "**
Perfume and preservative	**0.7 "**
Water	**54.0 parts**

Another liquid massage cream is prepared from:

Digylcol stearate S.	**3.0 parts**
Cetyl alcohol	**1.0 part**
Isopropyl myristate	**4.0 parts**
Vegetable oil	**8.0 "**
Stearic acid	**2.5 "**
Triethanolamine	**1.0 part**
Perfume and preservative	**0.5 "**
Water	**80.0 parts**

The "S" grades of diethylene glycol and glyceryl monostearates are the self-emulsifying grades containing traces of soap. The suggested formulae may be modified in various ways.

Infrared Drying of Extracts

Generally speaking, says S. Collett (*J.A.Ph.A.*, Scient. Ed. 41:476, 1952) a dry extract can be defined as a solution of the active principles of a vegetable drug which has been evaporated to dry-

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ness. The preparation of such extracts, especially on the large scale, is by no means a simple matter. The thermolabile nature of many drug constituents necessitates that the most careful attention be paid to the conditions under which the evaporation is carried out.

Of interest, therefor, is the fact that during the course of recent researches into the use of infrared radiation in moisture determination, certain chance observations led to the belief that the majority of vegetable extracts would undergo comparatively little deterioration during infrared drying; and it was thought that, if this were the case, a quantitative examination of such extracts before and after drying would yield interesting results. In consequence, some 40 samples, each representing a different batch of extract, were infrared dried on a small scale and the solid products immediately transferred to small airtight containers. Portions of the original soft extract and of the dried product were analyzed with a view to assessing what deterioration had occurred as a result of exposure to infrared radiation.

By comparing the figures thus obtained before and after drying, it was found that in the majority of cases the deterioration which occurs during the drying process is slight. This conclusion is further supported by the results of some additional experiments, carried out on four of the samples, in which the undried and dried extracts were each assayed for a particular active constituent. None of the samples examined required more than fifty minutes' exposure to the infrared radiation; complete drying was invariably effected within that period. The maximum temperature reached by the material being dried was 80°.

Water-Soluble Suppository Base

In listing the desirable characteristics of a suppository base, say W. H. Hassler and G. J. Sperandio (*J.A.Ph.A.*, Pract. Ed. 14:26, 1953) two different aspects should be considered: formulation of the base and absorption of drugs from the base. From the standpoint of formulation the ideal suppository base should: (1) Be stable. (2) Pour easily. (3) Set up in mold quickly. (4) Not require greasing of the mold. (5) Have good appearance. (6) Be easy to remove from the mold. (7) Not be necessary to refrigerate. (8) Be compatible with all medication.

From the standpoint of drug absorption from the base it should: (1) Be neutral in reaction. (2) Be non-irritating. (3) Present the drug in a readily absorbable form. (4) Completely melt or dissolve within 30 minutes. (5) Not leak from the rectum.

In considering these factors Hassler and Sperandio thought that if a blend of the different Carbowaxes could be compounded into a base that would resist room temperature and still assure a drug being absorbed from this base, it would find practical application. Three formulas were chosen from a total of 28 as being satisfactory for a suppository base. The three satisfactory formulas, differing in water content and hardness are as follows:

Formula No. 1

Carbowax 4000	33 per cent
Carbowax 6000	47 " "
Water	20 " "

Formula No. 2

Carbowax 1540	33 per cent
Carbowax 6000	47 " "
Water	20 " "

Formula No. 3

Carbowax 1540	33 per cent
Carbowax 6000	47 " "
Polyethylene glycol 400	20 " "

When formulas 1 and 2 were used it was necessary to store them in air-tight containers to prevent the loss of water. Formula 3 may be stored in any type of container, since polyethylene glycol 400 is used in place of water, and the suppositories are quite stable.

The following drugs have been compounded with the water-soluble bases and are compatible: pentobarbital sodium, seconal sodium, amytal sodium, ethylaminobenzoate, aminophylline, chloral hydrate, tannic acid, quinine sulfate, sulfathiazole, camphor, resorcinol, chlorobutanol, thymol iodide, chlorophyll, mercurochrome, and gentian violet. Animal experiments have established the absorption of barbiturates from the water-soluble base. Limited clinical trials indicated these bases to be non-irritating.

When compared with suppositories made with cocoa butter, those made with the water-soluble bases offer the following advantages:

(a) The medicament is either dissolved in the base or with insoluble drugs the viscosity of the base is great enough so that a drug may be evenly distributed in the base. (b) The suppositories do not tend to stick to the mold and may be readily removed after hardening. (c) The suppositories may be handled without melting. (d) The suppositories do not require refrigeration and are quite stable.

Improved Coal Tar Ointments

Following extensive studies on coal tar and coal tar ointment, G. R. Kerr and E. M. Plein (*Drug Standards* 21:10, 1953) recommended coal tar of low specific gravity and low viscosity for use in Coal Tar Ointment because it contains less free carbon and less of the irritating, solid hydrocarbons like naphthalene and anthracene.

In their studies, it was observed that the tar in Coal Tar Ointment, U.S.P., is not well dispersed (the particles are large) and the ointment is not easily removed from the skin. In seeking ways to overcome these deficiencies Kerr and Plein mixed coal tar with a number of substances which might serve as ointment bases. Hydrophilic Ointment, the polyethylene glycols and the Carbowaxes proved satisfactory in that they give mixtures easily removed from the skin. Solid Petroxolin disperses coal tar nicely but the mixture is difficult to remove. The investigators found that polysorbate 60 (Tween 60) mixed with coal tar gives a fine dispersion. When this mixture is incorporated into petrolatum a smooth ointment results which is readily removed with water by slight rubbing.

Two formulas for coal tar ointment were developed which seem to be very satisfactory pharmaceutically. One has petrolatum as the base and the other employs hydrophilic ointment, and each has coal tar dispersed first in polysorbate 60 and then added to the base containing zinc oxide and starch. The formulas are as follows:

I

Zinc Oxide	25 per cent
Starch	20 " "
Coal Tar	5 " "
Polysorbate 60	10 " "
Hydrophilic Ointment	40 " "

II

Zinc Oxide	25 per cent
Starch	25 " "
Coal Tar	5 " "
Polysorbate 60	10 " "
Petrolatum	35 " "

Both of these ointments are free from gritty particles, are homogeneous, are easily rubbed onto the skin, and are readily removed from the skin by slight rubbing with water. No soap is required. The one containing petrolatum is as easily removed as the one made with Hydrophilic Ointment. Both are brown. When these ointments are left to stand uncovered overnight the color darkens considerably.

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Industry's Books

Conductimetric Analysis at Radio-Frequency, by G. G. Blake, F. Inst. P., M.I.E.E., Fellow of the Physical Society (Lond.), 109 pp., Chemical Publishing Co., Inc., New York (1952), Cloth, $2.75.

The book describes the author's new technique and methods of conductimetric analysis or amperometric titration. It also gives the details of setting up reliable apparatus for carrying out analyses and titrations. The author's radio-frequency technique is rapid and accurate and, in addition to regular solutions, it is also suitable for the titration of colloidal solutions, when precipitates are present, and for microtitration. Radio-Frequency methods are described in detail by which a large or small quantity of any reagent can be compounded rapidly to match in concentration a small quantity of any standard solution without using a chemical balance. Among the applications discussed are: alcohols, plant nutrition, agriculture, biology, leather tanning, paper making, electro - therapeutics, chemical purity, drinking water, control of chemical processes.

Endocrine Treatment in General Practice, Edited by Max A. Goldzieher, M.D., and Joseph W. Goldzieher, M.D., 474 pp., Springer Publishing Co., New York, (1953), Cloth $8.

Endocrine treatment, as presented in this book, is an essential part of everyday medical practice. It encompasses all forms of therapy of the endocrinopathies, as well as the use of hormones in the treatment of diseases and conditions regardless of the question of an existing endocrine deficiency. It enables the physician to take full advantage of the manifold and potent pharmacologic actions of all hormones, those long known and those newly developed such as ACTH and cortisone. The book was written by twenty-one clinicians from many fields of medicine to meet directly the needs of the general practitioner for specific clinical guidance. Acting as consultants, the authors approach the problem of treatment as it is encountered in practice. Their starting point is the patient's history and symptoms, summed up in diagnosis, and this is followed by a thorough discussion of the most promising and practicable therapeutic regimen. The authors recommend the hormone preparations, doses, methods of application that have proved effective in their own practice. They state results to be expected, necessary cautions, and side effects of treatment to guard against.

Anglo-Saxon Magic and Medicine, by J. H. G. Grattan and Charles Singer, Illustrated specially from the Semi-Pagan Text "Lacnunga", in two parts, 234 pp., (1952), Published for The Wellcome Historical Medical Museum by Geoffrey Cumberlege, Oxford University Press, New York, cloth, $6.50.

The essential part of this work is an edition of the definitive text Lacnunga, an Anglo-Saxon Book of prescriptions, incantations, and methods of treatment in various diseases. The text was last published in 1866 by Cockayne, and that edition is now very rare. The present translation is preceded by a long and detailed introduction by Professor Singer dealing with the whole subject of Anglo-Saxon medicine. As a text which has hitherto been hard to obtain, the book will be of the greatest value not only to those interested in the history of medicine in this country but to all students of Anglo-Saxon.

Comparative Economic Systems, by William N. Loucks, Professor of Economics, and J. Weldon Hoot, Late Associate Professor of Economics, Wharton School, University of Pennsylvania, Fourth Ed., 899 pp., Harper & Brothers, New York, (1952) Cloth $6.

This edition embodies substantial changes. This discussion of the problem of pricing and agent allocation in a socialist economy has been extended. The material on the economy of Great Britain has been partially reorganized and rewritten in the light of the 1951 return of the Conservative party to office. Special emphasis is given to certain problems of evolutionary democratic socialism as demonstrated by British experience. The analysis of the economy of the Soviet Union has been brought up to date by the inclusion of recently available materials. The discussion of Fascism has been cast in historical perspective and many details of the economies of Fascist Italy and National Socialist Germany have been omitted, to clarify these historically important economies. The economies of Spain and Argentina have been described as current examples of fascist-oriented systems. The factual material on the Consumers' Cooperative Movement has been brought up to date. A description of the unique fusion of labor unions and cooperatives in the economy of Israel has been added.

Glycerol, Edited by Carl S. Miner, Director, The Miner Laboratories, and N. N. Dalton, Research Consultant, Glycerine Producers' Association (retired), American Chemical Society Monograph Series No. 117, (1953), 460 pp., Book Div., Reinhold Publishing Corp., New York, Cloth $12.

Written and edited by leading research scientists under the sponsorship of the Glycerine Producer's Association of America, this valuable new monograph brings you for the first time complete information on the sources, recovery, refining and uses of glycerol. All of the important recent developments in the field—synthetic glycerol, purification by ion exchange, and many others—together with latest designs in equipment, are fully discussed. Especially useful to chemists, purchasing agents and executives is the complete chapter on standards and specifications. This chapter, as well as those on analysis, physical and chemical properties, offers latest available data in easy-to-read tabular form. The uses of glycerine, ever increasing both in number and in domestic and industrial importance, are fully described to point out the great variety of present day applications. The chapters on physiological and microbiological uses were written by men working directly in these fields and reflect not only the most recent techniques and equipment, but also offer full proof of the nutritional value of glycerine.

Perfumer's Shelf

Camphor from Ocimum Kilimandscharicum

In their report in the *Indian Soap Journal* (18:53, Aug. 1952), K. N. G. Nair and N. S. Varier state that the air dried leaves of *Ocimum Kilimandscharicum* cultivated in Travancore has been found to yield on steam distillation 3.8 per cent of an essential oil. The oil contains the following constituents: pinene, limonene, terpineolene, linalool, camphor (62.13 per cent) and sesquiterpenes.

In the experimental work done by Nair and Varier, 50 pounds of the air-dried leaves (moisture 80 per cent) were distilled using a simple hydrodistillation still. It was found during distillation that at the free end of the condenser, camphor got deposited. The camphor was separated by cooling for 24 hours. The separated camphor was filtered out and the residual oil again cooled. After repeating this cooling and filtration three times, the accumulated camphor was purified by pressing on tiles and sublimation. Total yield of camphor was 22.8 per cent of the oil. The residual oil had the following constants:

Specific gravity at 30° C.	**0.9387**
Refractive index at 30° C.	**1.4725**
Acid value	**3.7**
Saponification value	**21.09**
Ester value	**17.39**
Saponification value after acetylation	**38.41**
Camphor per cent	**39.33**

New Analytical Methods

In their fourth annual review of analytical procedures for essential oils and related products, E. Guenther and E. E. Langenau (*Anal. Chem.* 25:12, 1953) state that at the present time, a new approach to the analysis of essential oils is evident. Attempts are being made to make use of modern techniques. These procedures include the use of Raman spectra, absorption spectrophotometry (in the infrared, visible, and ultraviolet regions), mass spectrometry, and polarography. Separations are being made by ion exchange resins and chromatographic procedures. These newer methods are being used for identification of constituents, evaluation of quality, and detection of adulteration. Most of these techniques, as applied to essential oils *per se*, are still in the stage of initial investigation. It will be many years before they are fully developed and evaluated. A great number subsequently will be discarded or modified, but some will take their rightful place in the rational analysis of essential oils and related products. The very complexity of volatile oils makes it difficult to apply such methods effectively; yet this very complexity renders the use of these methods imperative.

During the past few years, much work has been done, especially in European laboratories, using chromatographic separations of whole or fractionated essential oils. Applications also have been made of Raman spectra and absorption spectrophotometry for identification of individual constituents and elucidation structure. Guenther and Langenau note that at a recent meeting of the Association of Official Agricultural Chemists, J. W. Sale and his associates presented a new method for the detection of distilled oil in expressed lemon oils, based on empirical data obtained by ultraviolet absorption of pure samples. This represents the first important attempt in over a decade to improve the methods of analysis of lemon oil by means of the newer instrumentation.

Ascaridol Determination in Chenopodium Oil

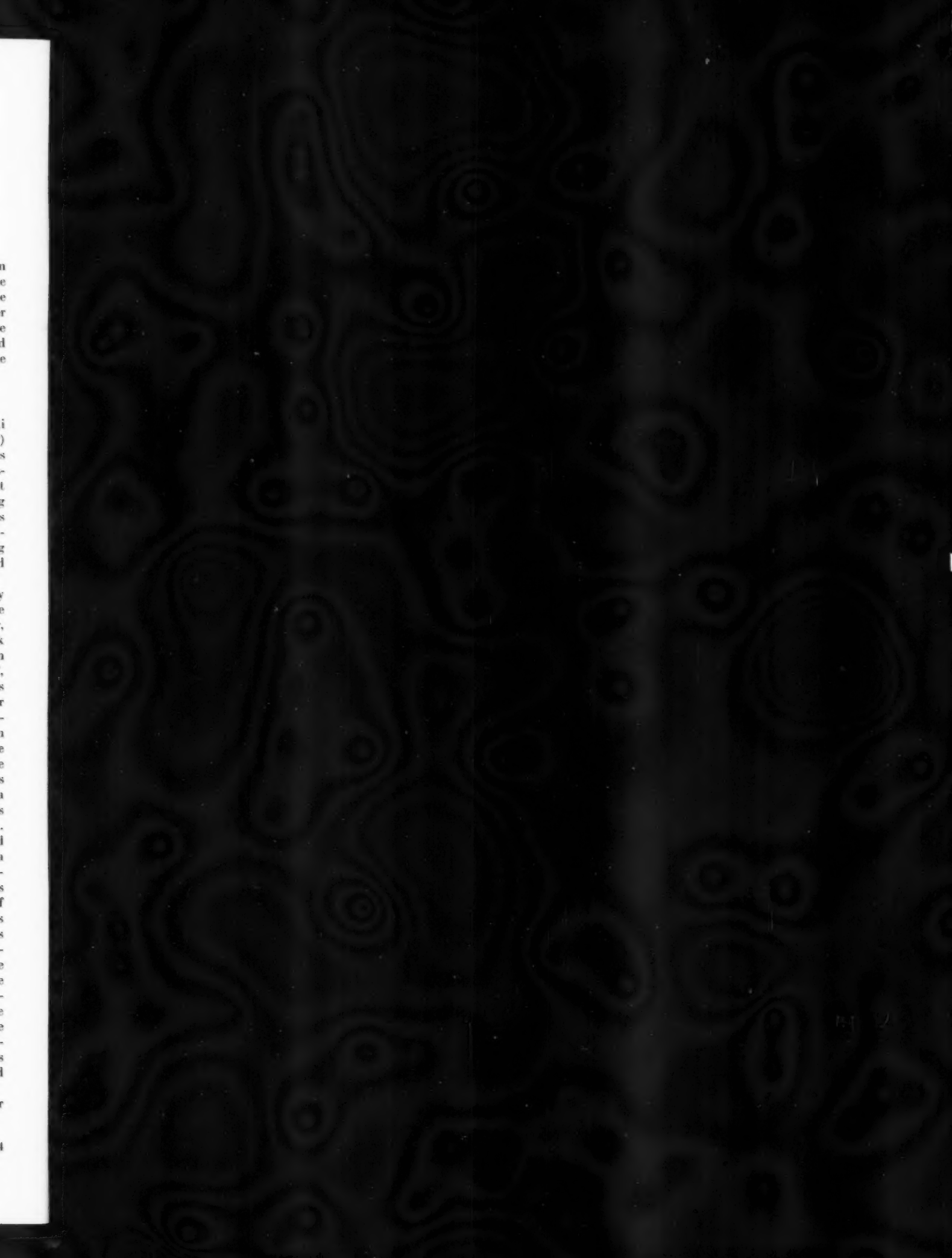
The occurrence and determination of ascaridol in the ethereal oil of *Chenopodium abrosioides* has been discussed by E. Wegner (*Pharm. Zeutralhalle* 91:43,1952). He described two new methods that were developed for detecting ascaridol in amounts up to 69.3 per cent in the ethereal oil and in the fruits of the plant. One method is based on the reduction of ascaridol with ferrous sulfate to ascaridol glycol and its identification as ascaridol glycol monobenzoate after esterification with benzoyl chloride. In the second method, propane is formed by reduction with 15 per cent titanium trichloride solution in a nitrogen atmosphere. The volume of the developed gas is then read. The formation of at least 1 cc. of gas per 1 cc. of oil used indicates the presence of ascaridol. Both methods can be used for the quantitative estimation of the ascaridol content.

Butane for Extracting Essential Oils

Perfume making, says G. J. Constanti (*Perf. & Essent. Oil Rec.* 43:449, 1952) is one of the world's oldest industries but the methods of extracting the essential oils from flowers and other plant organisms have varied but little during the centuries. However, a new process that uses butane as a solvent is attracting attention and promises to bring about important changes in the art and to provide new perfumes.

Up to 1950 the industry generally used petroleum ether, benzene, acetone and toluene as solvents. However, others had been tried, and as far back as 1880 a French scientist named Naudin had recommended butane. In 1947, E. P. Meunier investigated Naudin's theory and proved that butane was far superior to all the volatile solvents applied up to that time for the extraction of essential oils. The process is a simple one and permits condensation of the solvent for re-circulation. The flowers are spread on perforated plates in a series of hermetically sealed cylinders having a capacity of 18 to 54 cubic feet. The solvent, in gaseous form, is forced up through the vessels three times by a compressor. From there the gas, saturated with the essential oil, first flows through separators for the removal of any entrained moisture and impurities and then through a cooler where it is condensed. The resultant liquid is transferred by a small pump to a still where the essential oil is separated from the solvent by distillation. The liquid solvent is pumped back into the storage tank, while the residual solvent in the essential oil is extracted by steam injection. Finally, the fragrant essence is purified with alcohol and concentrated under low pressure.

The equipment required is rather



TOP NOTES by Fritzsche

FRITZSCHE BROTHERS INC

FRITZSCHE BROTHERS, Inc

A THOUGH

"The talent
more than d
well."
—

FLOWER of the Month

March—Jonquil
or Daffodil

April—Sweet Pea
or Daisy

MAYBE YOU KNOW HIM . . .

FRANC BARADA was only five when he first became interested in the customers and problems of Fritzsche Brothers. At that time his father's firm had just taken over F. B. representation in the Midwest and his daily selling experiences were a frequent and fascinating topic of home conversation. Young Franc listened and learned. By 1932, the year he joined the sales staff of Fritzsche Brothers, he had acquired a liberal education in the fine art of selling essential oils, flavors and aromatic chemicals. This early indoctrination in the business he was later to pursue has stood him—and us—in good stead ever since. Made manager of the St. Louis office when it was opened in 1937, Franc's duties have taken him to every part of this branch's far-flung territory. Customers like his easy-going, forthright manner, his sharp wit and his unassuming confidence borne of personal integrity and knowledge. And Franc likes them. He also likes golf and gardening—but above all, his family: a boy, a girl and a devoted wife.

RECOMMENDATION of the Month

MANILYL

Science has gone a step farther than nature in producing MANILYL, a special fraction of Oil of Ylang Ylang from which certain updesirable characteristics have been skillfully removed. The result is a smoother, lighter, more pleasing fragrance of greater tenacity and improved stability. It may be used with appreciable advantage in place of the best grade natural oils and at a price that is comparable. MANILYL conforms to definite physical constants and is carefully standardized by our laboratories. Try MANILYL . . . write for particulars.

G·A·R·
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grance of gard
joys its heavy
sponds to its li
a third will reve
Perhaps it is this
accounts for g
popularity.
Over the years,
striven to develop
size its varied n
each user's perso
we offer a wide r
of prices, too—an
column adjoining
gardenia creation
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to cover handling
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sent you prompt

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A THOUGHT for the Month:

"The talent of success is nothing more than doing what you can do well."

—H. W. LONGFELLOW

Good Scents

FOR PERFUMERS

G·A·R·D·E·N·I·A

FLORAL GEM OF MANY FACES

EACH OBSERVER interprets the fragrance of gardenia differently. One enjoys its heavy sweetness; another responds to its lighter mood, while still a third will revel in its fragrant whole. Perhaps it is this diversity of appeal that accounts for gardenia's never-ending popularity.

Over the years, our perfumers have striven to develop gardenias that emphasize its varied moods and so cater to each user's personal whims. Not only do we offer a wide range of preferences, but of prices, too—and for many uses. In the column adjoining is a cross section of gardenia creations—gardenias that have met with favor in a variety of applications. If there are THREE among them you'd like to sample, check these on the accompanying coupon, then mail it to us with your check or money order for $1.00 to cover handling and ½ oz. bottles of each of your three selections will be sent you promptly. →

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For Quality Shampoos:		
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For Bubble Baths:		
	GARDENIA H-523	$14.00 lb.
For Creams:		
	GARDENIA H-106	$12.00 lb.
For Shampoos and Creams:		
	GARDENIA K-062	$10.00 lb.
For Creams:		
	GARDENIA O-086	$ 8.00 lb.
For Shampoos and Cold Wave Sets:		
	GARDENIA J-191	$ 7.00 lb.
For Sachet Powders and Incense:		
	GARDENIA J-417	$ 7.00 lb.
For Bubble Baths and Soaps:		
	GARDENIA J-850	$ 6.50 lb.
For Bath Salts, Soaps and Talcums:		
	GARDENIA N-987	$ 5.50 lb.
For Creams and Lotions:		
	GARDENIA J-117	$ 5.00 lb.

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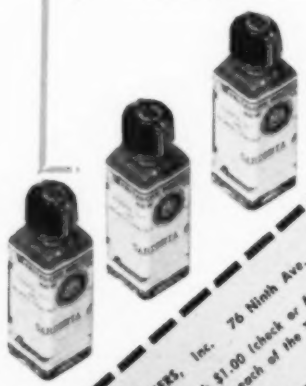

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Gentlemen: I attach $1.00 (check or M.O.) for which please send me, prepaid, ½ oz. bottles of each of the THREE perfume compositions checked herewith:

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Company _____

Address _____

City _____ State _____ Zone _____

CHECK THREE

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- ☐ GARDENIA N-885
- ☐ GARDENIA H-228
- ☐ GARDENIA H-523
- ☐ GARDENIA H-106
- ☐ GARDENIA K-062
- ☐ GARDENIA O-086
- ☐ GARDENIA J-191
- ☐ GARDENIA J-417
- ☐ GARDENIA J-850
- ☐ GARDENIA N-987
- ☐ GARDENIA J-117

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…AW MATERIALS

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TEST FOR THE DETERMINATION OF THE ALDEHYDE CONTENT OF AN ESSENTIAL OIL.

NO GREAT SKILL is needed to undersell a competitor if a supplier is willing to sacrifice the vigilant attention to small details of production and control that insures his product's purity. Savings effected in this way seem—to us—hardly sufficient to justify that larger sacrifice of quality. And putting ourselves in the position of one responsible for the purchase of fragrance raw materials, we do believe we'd rather stake our reputation on purchases based upon quality than upon those measured solely by cost. The fact that FRITZSCHE offerings are and always will be products of scientific selection and control is a point to be remembered when making competitive comparisons.

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• MEMO •

To: MANUFACTURERS OF PROPRIETARIES AND PHARMACEUTICALS

From: FRITZSCHE BROTHERS, Inc.

Subject: MAKING MEDICINAL PRODUCTS MORE PALATABLE THROUGH THE USE OF MODERN, SCIENTIFICALLY DEVELOPED FLAVORS.

Medicinal flavoring has undergone a marked change in recent years — a change as subtle as it is effective because of the skill with which palatability has been achieved for so many of pharmacy's complex, new products.

Old flavor-standbys of former years — peppermint, cherry and the like — while still widely used, are giving way gradually to new, scientifically prepared flavorings which have been developed specifically, in each case, to meet conditions peculiar to the particular product involved.

It is no secret that to gain assured results most quickly, many of the largest ethical houses now turn their special flavoring problems over to our industry's long-established and most reputable flavor specialists.

By taking advantage of available top knowledge and skill in the development of such specialties, they avoid the risk of wasting precious months of experimentation in their own laboratories on what — for lack of basic flavoring know-how — might prove to be fruitless research.

It is for these reasons that we offer the limit of our experience and laboratory facilities to any manufacturer of pharmaceuticals whose products present problems of palatability or flavor that must be solved before their introduction for sale.

Consultation at your convenience — and in utmost confidence — is cordially invited.

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FRITZSCHE BROTHERS, Inc.,
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Gentlemen: Possibly you can help us ☐ mask the objectionable flavor or ☐ improve the palatability of our product which is in the form of (check): ☐ Capsule ☐ Tablet ☐ Liquid ☐ Emulsion. From a flavor standpoint, its most objectionable ingredient is:

.....

Vehicle used is: .....

Its pH is: .....

Average dosage is: .....

Name..... Title.....

Company .....

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City..... Zone.... State.....

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heavy and complicated, but it gives excellent results. The vegetable organisms are never damaged, and it is therefore possible to obtain essential oils whose fragrance are exactly the same as those of the raw materials from which they were extracted. By still another method the flowers are arranged in baskets which are suspended from a large wheel and plunged repeatedly into the volatile butane in a closed vessel. Other than that the treatment of the saturated solvent proceeds as above outlined.

As the best essential oils are obtained at low temperatures, it is obvious that butane has a great advantage over all the other volatile solvent. At atmospheric pressure its boiling point is only 30° F., as compared with that of petroleum ether, for instance, which is 160°. This means that butane can be vaporized with steam at 64°, as against 212° in the case of petroleum ether. Furthermore, butane makes it possible to extract the essential oils from such flowers as lily of the valley and lilac.

Crude Camphor Treatments

The treatment of crude camphor is described in two Japanese patents. In the first of these, Japanese patent 508 ('51) granted to Mr. Ono, crude camphor oil is treated with an equinolecular amount of phenols from coal tar, and fractionally distilled. The fractionation depends on the formation of molecular compounds of camphor and phenols. The phenols are separated by washing with alkali.

In the process described by M. Kitajima in Japanese patent 1722 ('51) the camphor in the crude product is dissolved in a 50 per cent aqueous solution of sodium salicylate and the impurities are removed by shaking with a nonpolar solvent, such as benzene, toluene, or ligroine.

Viscosity and Menthol Content of Peppermint Oils

In investigations made by L. Fischer, R. J. Kahl and N. A. Hall (*J. Am. Pharm. Assoc.* Scient. Ed. 42:33, 1953) a viscosimetric method for the determination of free menthol in peppermint oil, developed for oil grown in the midwestern United States, has been applied to Pacific Northwest peppermint oils from two growing areas. Usable correlation between free menthol content and viscosity was obtained when the method of preparing the standard curve was modified by fortifying a natural oil of low menthol content (rather than a rectified oil) with pure *l*-menthol. The method was found to have limitations. However, the results show that, in a given growing area with oils of approximately the same age which have been stored under similar conditions, the viscosimetric method for determination of free menthol may be used for control purposes with good possibilities of success. These conditions would be met normally when oil from a single year's crop of mint comes from the field and is placed in the warehouse of the buyer before blending or rectifying.

Estimation of Argemone Oil

A method for estimating argemone oil in mustard oil by the bromide-bromate test has been described by S. N. Mitra, S. C. Chakravarti and A. B. Som (*Science and Culture* 17:522, 1952). Their procedure is as follows: Extract 10 cc. of the oil with 4 cc. of concentrated hydrochloric acid with heating. Add 0.4 cc. of potassium bromide-potassium bromate solution and let stand two hours. An orange to red color develops with increasing concentration of argemone oil. At over 0.75 per cent of argemone oil, the tint is too deep for direct matching and the sample must be diluted with pure argemone-free mustard oil.

New Essential Oil Standards

To the 61 Official Specifications for Essential Oils and Aromatic Chemicals as developed by the Essential Oil Association of U. S. A. have now been added specifications numbers 62 to 68 inclusive. These include, respectively, the E. O. A. Standards for Oil Ocotea Cybarum, Oil Guaiac Wood, Oil Amyris, Oil Balsam Peru, Oil of Tolu, Oil of Opopanax, and Oil Olibanum.

Lauryl and Myristyl Esters in Perfumery

In discussing the role of the esters of the lauryl and myristyl groups in perfume compounding, C. Morel (*Soap, Perf. & Cosmetics* 25:1072, 1952) states that, although they have comparatively mild aromas, these substances do possess a distinctive fragrance. With respect to their physical properties, he regards these derivatives as "consolidators." As fixatives, they impart a very desirable tenacity. Morel notes, particularly with methyl, ethyl and amyl laurates and myristates, that not only are these substances able to confer upon the elements of a compound a repleteness similar to that noted with decyl alcohol; they also possess the strengthening function of the eugenols, and moreover, exhibit to a very high degree a unique solvent action, particularly towards the nitro musks and also for resinoids like Peru, which are frequently incompatible with essential oils.

In searching among odors of a similar tonal quality, Morel concludes that the peculiar and latent fragrance of the esters in this series bears a very close osmical resemblance to the mild linden type and to the slightly oleose aromas resulting from various proportional mixtures of farnesol and nerolidol with methyl phenyl carbinyl caproate and caprylate. He summarizes considerable information on the characteristics of the esters of the lauryl and myristyl series in the following table:

Ester	*Mol. Wt.*	*R.*	*B.P.*	*S.G.*	*R.I.*	*Basic Odor*
Lauryl formate	214	79.0/21.0	280	0.880	1.4320	Mild Linden-lily
Methyl laurate	214	7.0/93.0	300	0.865	1.4320	Weak mimosa-stearin
Lauryl acetate	228	74.1/25.9	298	0.875	1.4340	Mild rose-tuberose
Ethyl laurate	228	12.7/87.3	270	0.860	1.4300	Weak tuberose-stearin
Lauryl propionate	242	69.8/30.2	305	0.890	——	Weak fruity-fungal
Propyl laurate	242	17.7/82.3	310	0.887	——	Weak musty-stearin
Lauryl butyrate	256	66.0/34.0	315	0.870	——	Weak rancid oil
Butyl laurate	256	22.3/77.7	310	0.865	——	Weak arachis-butter
Lauryl valerianate	270	62.6/37.4	320	0.860	1.4350	Oily, unripe fruit
Amyl laurate	270	26.3/73.7	320	0.860	——	Apricot-arachis type
Methyl myristate	242	6.5/93.5	300	0.870	1.4875	Mild honey-orris
Ethyl myristate	256	11.4/88.6	295	0.860	1.4400	Mild irone-orris
Propyl myristate	270	15.8/84.2	305	0.855	1.4380	Mild olein
Butyl myristate	284	20.0/80.0	310	0.860	——	Weak castor oil
Amyl myristate	298	23.8/76.2	320	0.865	——	Mild waxy
Hexyl myristate	312	27.2/72.8	330	0.865	1.4410	Mild stearin

Note: R = percentage ratio of alcoholic to acid radicals.
B.P. = Boiling point ° C. at normal pressure.
S.G. = Specific gravity average at 15.5°/15.5° C.
R.I. = Refractive index constant for the Na D line at 20° C.

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ACID FORMIC 98-100% C.P.	POTASSIUM CYANATE Powder, Purified
ACID HYDROCHLORIC Reagent, A.C.S.	POTASSIUM ACETATE Technical, U.S.P.
ACID NITRIC Reagent, A.C.S.	POTASSIUM PHOSPHATE Dibasic Monobasic, Purified
ACID OXALIC Anhydrous, Technical	POTASSIUM THIOCYANATE, N.F.
ACID PHOSPHORIC, ORTHO 85% U.S.P.	SALICYLAMIDE, PURIFIED
ACID SULFURIC Reagent, A.C.S.	SODIUM BISULFITE Meta, Anhydrous, Powder, Reagent
ALUMINUM CHLORIDE 32° Baumé Solution	SODIUM CARBONATE Monohydrate, U.S.P.
ALUMINUM SULFATE 80-Mesh Powder, N.F.	SODIUM HYDROXIDE N.F., Reagent, A.C.S., & Tech.
AMMONIUM ACETATE Crystal, Purified	SODIUM PHOSPHATE Monobasic, Crystal, Reagent
AMMONIUM HYDROXIDE Reagent, A C.S.	SODIUM SULFATE Anhy. Powder, N.F. VII
AMMONIUM SULFATE White Granular, Purified	SODIUM SULFITE Exsiccated Powder, U.S.P.
CALCIUM ACETATE Powder, Purified	SODIUM THIOSULFATE Granular, U.S.P.

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Patent Thoughts and Trends

*by Thomas Cifelli, Jr.**
PATENT ATTORNEY

SYNERGISM

This fancy word is one which is often used in connection with patents. In plain English it means that if you combine two or more ingredients, each known to have certain properties, and you wind up with something which has properties greater than the sum of those belonging to the known ingredients, then you have a synergistic effect—and an excellent chance of obtaining a patent. It is like making $5.00 from $2.00 and $2.00, only instead of winding up in jail, you are deemed worthy of the favor of the patent law.

An example of a recent patent involving this principle is U. S. Patent 2628183, assigned to The Dow Chemical Company.

It was found that by adding small amounts of 5-nitro-2-furaldehyde semicarbazone to bisphenols, the desirable chemotherapeutic effects of the bisphenols were increased beyond percentage ratios. Bisphenols employed included 2,2′-methylene bis (4-chlorophenol), 4,4′-isopropylidene bis (2-isopropylphenol) and 4,4′-isopropylidene bis (2-methylphenol). One part of the nitro compound is recommended for each 10 to 50 parts of the bisphenol.

Example 1, reproduced from the patent, shows the results obtained in one series of actual tests.

Example 1

An anticoccidial concentrate composition was prepared in the form of a dispersible powder by grinding together 90 parts by weight of 2,2′-methylene bis(4-chlorophenol) and 10 parts of an aluminum magnesium silicate Attapulgite). This product is referred to hereinafter as Concentrate A.

Concentrate A and finely ground nitrofurazone, both separately and in combination, were dispersed in a commercial poultry starting mash to form homogeneous dispersions of the anticoccidial agents in the form of medicated feed compositions.

These compositions and unmodified starting mash were fed as a sole ration to groups of New Hampshire Red chickens of the same history and past environment. Each such test group consisted of six chickens which were 4 weeks of age. 48 hours after initiation of the diets, 100,000 sporulated *Eimeria necatrix* oocysts were introduced directly into the crop of each bird. At intervals, the birds were weighed and the average per cent weight gain per bird for each group determined for the interval occurring between the fourth and eighth days following the inoculation. During this interval, the coccidial infection normally causes maximum disturbances in the rate of growth of chicks. The average per cent gain in weight per bird for the medicated and unmedicated flocks are set forth in the following table:

Percent by weight of active ingredient in mash		Average percent gain in weight per bird between the 4th and 8th days following inoculation
2,2′-methylene bis-(4-chlorophenol)	Nitrofurazone	
0.05	0	9
0.10	0	10.6
0.20	0	16.3
0	0.0025	6.5
0	0.005	16
0.05	0.0025	18
Check (unmodified mash)		−18[1]

[1] Percent loss in weight.

Trade-Mark Notes

Even though the Patent Office agreed that the slogan 99 44/100% *pure* is well known in connection with Procter & Gamble's *IVORY*, Procter & Gamble was turned down in its request for registration of the slogan. Reason: the slogan was placed on the labels submitted to the Patent Office in such an obscure manner that they were held not to function as a trade-mark. The same result was reached in a companion case involving *it floats*. That you are not always restricted to protection against use of your trade-marks by others to your field only was shown by the recent action of the Patent Office in refusing registration of *KODAX* for pyrophoric cigar and cigarette lighters by one Jack Galter. *Johnson & Johnson* was upheld by the Patent Office in its objection to the registration by S. Weiner of the notation, Johnson & Johnson, for men's shoes. The J. & J. and Kodak cases involve the same basic principle that newcomers, even in a different field, cannot register a well-known trade mark. *Anahist* is not confusingly similar to *Anacin*, according to a recent Patent Office ruling.

Patented Cosmetics and Toilet Preparations—III

The first two parts of this review appeared in the February and March, 1953, issues of This Journal.

U. S. 2,266,540—Coloring Composition—issued to Alphonse T. Fiore, assignor to Burton T. Bush, Inc.

Fiore's idea here was to provide lip-coloring and lip-staining compositions, as distinguished from ordinary lipsticks. This was accomplished by replacing part of the castor oil normally used in lipsticks containing halogenated fluorescein dyes with tetra hydro furfuryl alcohol.

Claim 1 is illustrative:

A lip-coloring composition containing tetra hydro furfuryl alcohol, waxes, and a halogenated fluorescein.

U. S. 2,292,417—Razor Blade—issued to Herbert E. Wetherbee, assignor of two-fifths to Richard F. Grant, and one-tenth to Benton H. Grant.

How would you like to be able to shave simply by washing your face, and then applying a wet razor blade to your wet face?

According to this patent you can, if your razor blade is coated with certain waxy materials.

At this writing it is not known whether Wetherbee's idea has seen the light of day as far as commercial exploitation is concerned, but it is believed that Wetherbee deserves an "A" at least for effort.

Claim 1 is illustrative:

An article of manufacture consisting of a razor blade having a shaving preparation tightly - adherently mounted thereon which is solid at

*Gaylor, Cifelli & Jurick
Newark 2, New Jersey

Bettman Archive

JUSTUS VON LIEBIG (1803-1837) Renowned German chemist, credited with establishing the then most modern laboratory in the world at Giessen, Germany. In it were trained many accomplished chemists and it gave great impetus to the progress of chemical education. Liebig's paper in 1832 on the oil of bitter almonds marked the dawn of a new era in organic chemistry.

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ordinary temperatures, said preparation comprising material selected from a group consisting of beeswax, paraffin wax, carnauba wax, Chinese insect wax, stearic acid, and palmitic acid, and including surface-active material which is slightly soluble in water and promotes rapid self-spreading of the preparation in a film upon the surface of water when the latter is contacted thereby.

U. S. 2,292,419—Shaving Preparation and Form Thereof—issued to Herbert E. Wetherbee, assignor of two-fifths to Richard F. Grant, and one-tenth to Benton H. Grant.

This patent is tied in with U. S. 2,292,417, and is specifically directed to covering the shaving preparations which are coated on the razor blades.

Claim 1 is illustrative:

A shaving preparation which is solid at ordinary temperatures and is comprised of a preponderant portion of beeswax and a minor portion of mineral oil, by weight, together with substances which are surface-active and promote a rapid self-spreading of the preparations in a film upon a wet surface when the latter is contacted thereby, said surface-active substances including oleic acid in an amount substantially four per cent of the whole preparation, and a medicum of thymol.

U. S. 2,292,645—Eyebrow Dressing—issued to Rebecca T. Markin.

A non-dye containing non-irritating eyebrow dressing is said to result from a composition comprising green surgical soap, beeswax, water and borax.

Claim 1 is illustrative:

An eyebrow dressing consisting essentially of green surgical soap, beeswax, water and borax combined together in the form of a smooth, plastic, non-sticky, easily spreadable composition.

U. S. 2,294,233—Cosmetic Preparation—issued to Benjamin R. Harris.

In order to stabilize cosmetic emulsions of the water-in-oil type, Harris suggests the use of hydrophyllic lipins, such as:

1,6-dilauryl diglycerol
Mono melissyl ester of diethylene glycol
Mono oleyl diglycerol
Mono-abietic acid ester of triglycerol
Monostearyl glycerol
Mono cetyl ether of glycerol
Mono oleyl glycerol
Di ethylene glycol mono-stearate

Claim 1 is illustrative:

A cosmetic preparation adapted for application to the face, said preparation being essentially devoid of the tendency to lather, comprising a normally solid oleaginous aqueous material, soap, and a proportion of a member selected from the group consisting of glycols and polyglycerols, partially esterified with a higher molecular weight carboxylic acid.

U. S. 2,320,098—Cosmetic Coloring Composition—issued to Sverre Quisling.

The inventor here asserts that his compositions not only color the skin, lips and hair, but also have therapeutic effect.

Claim 1 shows the composition, and gives an idea of the protection:

A composition of matter adapted to form a non-toxic color coating for hair and skin comprising at least 50 per cent saccharide in candy-like form selected from the group consisting of sucrose, lactose, dextrose and maltose, which contains protein material selected from the group consisting of zein and gelatin, and at least 10 per cent water insoluble pigment material.

U. S. 2,383,990—Prolamine Coating Materials—issued to Sverre Quisling.

This patent is a companion patent of U. S. 2,320,098 and the invention covered here is said to overcome certain disadvantages of the compositions disclosed and claimed in U. S. 2,320,098.

The finding here is that prolamines may be used in connection with extending agents other than carbohydrates and/or aqueous alcoholic wetting agents used therewith.

Claim 1 is illustrative:

A non-tacky, substantially water insoluble color cosmetic coating material for hair, skin, nails and lips comprising a major portion of prolamine plastic base material which contains a relatively small amount of water soluble extending material and a finely divided pigment material suspended therein.

U. S. 2,449,070—Protective Coating for use in Manicuring—issued to Ethel Hauser and Peter Kovol, said Kovol assignor to said Hauser.

In the art of manicuring, whether done by amateurs or professionals, it appears that it is difficult to apply the polish without keeping some of it from going on the skin, thereby causing a somewhat difficult cleaning job.

The thought behind this patent is to apply a coating to the fingers where they surround the nails, before applying the fingernail enamel. The nail enamel does not adhere to the coating, which is washable. Consequently, even if some of the nail enamel gets on the coating, all that has to be done is to wait until the enamel has dried off, and then wash the hand. The washing action will remove the sub-coating, as well as the enamel, which may have gotten thereon.

The key ingredient in the aforesaid coating compound is a cellulose film-forming material, such as ethyl cellulose.

Claim 2 is illustrative:

A flowable composition for applying to the fingers prior to applying nail polish to bound the nail and define a nail polish receiving area thereof; the composition consists essentially of a waxy material, a cellulose derivative and a volatile solvent therefor, and a compatible softener plasticizing the waxy material; the waxy material and compatible softener together constituting the major quantity of non-volatile ingredients, and the composition having the property of forming a substantially non-drying film impenetrable to nail polish.

U. S. 2,506,921—Tetrahydrofurfuryl Ester Solutions of Halogenated Fluoresceins—issued to Siegfried Gottfried.

This patent deals with the same subject treated in U. S. 2,266,540, abstracted above.

In place of tetrahydrofurfuryl alcohol used in U. S. 2,266,540, the inventor here claims to obtain superior results with tetrahydrofurfuryl esters, such as the acetate, stearate, oleate, etc.

Claim 1 is illustrative:

A cosmetic composition to be applied to the lips and face comprising a fatty base and a solution of a halogenated fluorescein in a tetrahydrofurfuryl ester.

U. S. 2,548,970—Liquid Lip-Rouge Composition—to Lorene Grigsby.

Liquid lip-rouge compositions, which are said to be non-smearing, remain on the lips for relatively long periods of time, disappear very evenly and gradually, do not flake or peel, impart a natural velvety appearance to the lips, remain in solution without formation of a sediment, and which do not run but permit an even, sharp outline to be maintained, form the subject of this invention.

The claims are all restricted to the particular examples given, Claim 1 being illustrative:

(*Continued on page 544*)

Animal Health

Streptomycin for Rhinitis in Pigs

R. Gwatkin and L. Dzenis (*Canad. J. Comp. Med.* 16:330, 1952), having previously found that antibiotics might be effective in the treatment of rhinitis of pigs, tried using streptomycin and penicillin instillations nasally in pigs that had been given nasal instillations of suspended scrapings of infective nasal material. In summarizing their findings, the investigators state that these experiments, while on a limited scale, suggest possibilities in the early use of streptomycin in infected herds where the salvage of blood lines is desirable, and where isolation and handraising are possible. In these experiments, ten of twelve artificially infected animals developed rhinitis while only one of 14 animals treated with streptomycin developed the disease. The difference between these groups is highly significant.

Propionates for Cattle Ketosis

In reporting on recent studies on ketosis in dairy cattle, L. H. Schultz (through *J. Am. Med. Assoc.* 122:126, 1953) stated that propionic acid is definitely helpful in preventing or alleviating the blood disturbances found in ketosis, acetic acid is mildly helpful, and butyric acid is very undesirable.

During the investigations of this disease, all ketosis cows showed a low assay in total acids per unit of rumen liquor but little disturbance in proportion of the three acids. To make up the deficit, propionic acid was indicated, but to introduce the performed acid would have created the danger of acidosis. Therefore, sodium propionate was administered to 25 cows. One failed to respond (she had metritis) and three relapsed. In all the others, blood sugar levels rose promptly, and the milk flow rose also. In most cases, the appetite was better within a day or two, but the ketone levels receded slowly to return to normal at about ten days.

The treatment consisted of dissolving two or four ounces of sodium propionate in water morning and evening and administering this for ten days. This dissolves readily in one pint of water. The calcium salt appears to be equally effective but dissolves more slowly. Either salt is inexpensive and should be available since both are used by bakers to reduce ropiness and prevent mold.

Terramycin for Trout Growth

It is reported in the *Chemurgic Digest* for January, 1953, that terramycin, at the ratio of 5 to 10 Gm. per ton of feed, has stimulated the growth of hatchery-bred rainbow trout in much the same degree that the antibiotic has been known to speed the growth of poultry and pigs. Moreover, it produced gains at a very low cost per pound.

Terramycin was tested against another antibiotic that had shown promise in 1951 tests and one-and-a-half-inch rainbow trout were used in the research study. Various diets were employed, and two terramycin-vitamin combinations were tested. The best results were obtained with diets containing a high percentage of fresh liver or horsemeat and 10 Gm. of terramycin per ton of feed. The growth gains of fish on these diets were 80 per cent, and the cost per pound of gain was 15 cents. Mortality was only seven tenths of one per cent.

Earlier, veterinary experiments with trout established that a high ratio of terramycin, 46 Gm. per ton of feed, stopped epizootics of trout ulcer disease, an affliction so serious, it has threatened to force trout hatcheries out of business in the northeastern section of the United States.

Foot Rot in Dairy Cattle

According to D. N. Stern (*Massachusells Dairy Digest*, Feb. 9, 1953) the disease, foot rot or foul claw is a chronic problem with many dairy farmers. Although the disease has been known for many years, there is still apparently a great deal of controversy over the actual causative agent. However, most authorities are agreed that it is a disease associated with unsanitary surroundings especially muddy barnyards or swampy pastures. It is quite serious in that it tends to spread through the milking line and usually causes a definite drop in milk production. If the affected feet are not promptly taken care of, the condition will persist for weeks and even months followed by decreased milk production and the extremely poor condition of cows.

Prevention of the disease, says Stern, is the best and easiest answer to the foot rot problem. If a dairyman is having a great deal of trouble with this disease, it is important that he keep his barnyards and loafing areas dry. The organisms thrive best in wet habitats. If these areas cannot be drained, they should be filled in or fenced off. Sometimes cows are forced to walk through a 3 to 4 percent solution of copper sulfate before entering and leaving the barn, or again through a box containing agricultural lime for its drying action mixed with copper sulfate. Strict attention should be paid to the feet. If claws are allowed to develop abnormally, they tend to crack and open the way for infection by these organisms. Periodic examination of the feet will prevent many cases of foot rot.

Antibiotics and Turkey Poult Growth

Studies were undertaken by O. M. Williams and J. E. Hill (*Poultry Sci.* 31:769, 1952) to determine the effect of the antibiotics aureomycin, streptomycin, and penicillin, on the growth of Beltsville White and Broad Breasted Bronze poults. Antibiotics were used singly and in combination at one level only. There was no significant difference, with either variety of poults, between the following treatments: Aureomycin alone *vs.* the triple combination, penicillin alone *vs.* the triple combination, or aureomycin plus penicillin *vs.* the triple combination. With the White poults, the combination of aureomycin plus penicillin gave a significant increase over aureomycin alone. The difference in weight in favor of this same combination when compared with penicillin alone was 48 Gm., a figure which closely approaches significance. With the Bronze poults, the combination of aureomycin plus penicillin was highly significantly better than penicillin alone. There was no difference when aureomycin plus penicillin was compared with aureomycin alone. There was no significant difference when aureomycin alone was compared with penicillin

alone, with the White poults, but aureomycin alone was significantly better than penicillin alone with the Bronze poults. With the White poults, streptomycin alone gave a highly significant growth response over the control. With the Bronze poults, there was no significant difference between the Pen receiving streptomycin and the control. This seems to indicate a variety difference in the response to these antibiotics when fed at the same level. The triple combination of aureomycin, streptomycin and penicillin appeared to be no better than the double combination of aureomycin and penicillin. The triple combination failed to produce a significant growth response over aureomycin singly or penicillin singly.

Broiler Feeding Trials

Bulletin 529, "Broiler Feeding Trials," by R. M. Smith was issued in January, 1953, by the Arkansas Agricultural experiment Station. The bulletin presents data on ten broiler feeding trials that were conducted during the years 1943 to 1950. The objectives of these trials were to determine the influence of protein level, feeding methods, and certain hormone and vitamin additions to a basal ration upon the weight, feed requirement, dressed grade, and livability of broilers at 10 to 12 weeks of age. A total of 6,125 broilers were grown in these trials. There were 64 separate experimental groups, which ranged in number of chicks started from 54 to 125.

Feeding a 20 per cent protein ration during the first six weeks and a 17 per cent protein ration during the last six weeks of a 12-weeks feeding period was equal to feeding the 20 per cent protein ration throughout from the standpoint of weight, feed utilization, and mortality of the egg-producing Barred Plymouth Rock Strain No. 1. However, with meat-producing strains of Barred Plymouth Rocks, New Hampshires, and crosses of these strains, furnishing the 17 per cent protein ration during the last six weeks of a 12-weeks feeding period did not prove to be as adequate as using the 20 per cent protein basal throughout, from the standpoint of weight and feed efficiency. Meat-producing strains of chickens, in most instances, demonstrated a greater response to the higher protein rations during the last six weeks of a 12-weeks feeding period, than did the egg-producing strains.

Thyroprotein caused a significant and consistent decrease in growth rate at both 9 and 12 weeks of age, and a consistent decrease in feed efficiency at 12 weeks. Thiouracil improved the dressed grade, due primarily to more complete fat covering of the carcass, but had no significant influence on either mean weight or feed efficiency at 12 weeks of age. Dienestrol diacetate resulted in only a slight improvement in carcass grade. It has no consistent influence on mean weight or feed efficiency, but had a marked retarding influence on the development of comb and wattles of the male broilers. Neither niacin nor choline chloride additions to the basal ration influence growth, feed requirement, or dressed grade.

All commercial vitamin B_{12} and antibiotic supplements to the basal ration resulted in a significant and consistent increase in mean weight and a consistent increase in both feed efficiency and dressed grade, as compared with the basal ration. However, these supplements to the basal ration did not consistently increase mean weight or feed efficiency over that obtained on either high energy or low energy animal protein rations. They did result in a consistent increase in dressed grade over that on the animal protein rations. Livability was apparently not associated with any of the various factors on which these feeding trials were based.

Sulphaquinoxaline Toxicity

Since 1950, note S. F. M. Davies and S. B. Kendall (*Vet. Rec.* 65:86, 1953) sodium sulphaquinoxaline has come into commercial production in Britain and its use has been widely advocated. In general, it has fulfilled its early promise as an effective coccidiostatic drug but there have been a sufficient number of field reports of mortality associated with its use to justify further investigation into its possible toxicity under certain circumstances. Laboratory observations made by Davies and Kendall have shown that sodium sulfaquinoxaline at a concentration of 0.0645 per cent of the drinking water may induce toxic symptoms in chickens even when used for five days only. Higher concentrations of the drug or its use for more extended periods can produce more dramatic effects. These observations confirm field reports of toxicity associated with the use of the drug for controlling caecal coccidiosis. The preliminary observations of Davies and Kendall have suggested that the appearance of toxicity is associated not only with excessively high intake of the drug but also with the factors of age of the chick, the mode of administration of the drug and the presence of intercurrent disease.

Chloral Hydrate for Ketosis

According to a note by D. Morrison in the February, 1953, issue of the *Farm Journal*, chloral hydrate is clearing up cases of ketosis among dairy cattle, in tests at Washington State College. Almost all the cows treated with chloral hydrate responded within 24 hours. Many cases have cleared up completely in a few days. All were diseased cows that had not responded to other treatments, including cortisone. Most effective dosage of chloral hydrate has been 2 ounces in 6 quarts of warm water given as a drench or with a stomach tube.

Aureomycin in Chicken Diet

In a report of the effect of aureomycin on the growth of chickens, G. L. McClymont and D. C. Duncan (*Agri. Gaz. N. S. Wales* 63:461, 1952) state that administration of the antibiotic to 26-day-old white Leghorn cockerels at 18 Gm. per ton of feed (to six weeks) and 9 Gm. per ton (for six to eleven weeks) increased the weight and lowered the food requirements on both low-protein and high-protein rations. On low-protein rations, the weight increased 20 per cent, and food requirements decreased 10 per cent. On a high-protein diet, the weight increased by 17 per cent and the food requirements were lowered by 13 per cent. Apart from the faster growth, the aureomycin supplement lowered over-all feeding costs.

Terramycin for Avian Salmonellosis

Among the conclusions reached by Z. Morcos (*Bril. Vet. J.*, Oct. 1952, through *Vet. Med.* 48:77, 1953) with regard to the treatment of salmonellosis in fowls is that treatment with three successive doses, 250 mg., of terramycin is satisfactory, economic, and scientific. The terramycin is administered in a capsule by way of the mouth, daily for three successive days. Blood clot cultures were negative the day following treatment, and two months later were still negative. Morcos also observed that following the seventh day of terramycin application and onwards for two months, cultures from the eggs were negative. The fowl gained in weight and condition during treatment though egg laying was suspended for a few days.

ANSWERS TO YOUR QUESTIONS ABOUT ROCHE THIAMINE

Q. *What are the Roche thiamine products?*

A. There are two: Roche thiamine hydrochloride and Roche thiamine mononitrate. Both exceed minimum U.S.P. specifications.

Q. *For what kinds of products is Roche thiamine hydrochloride, Regular Type, intended?*

A. It is ideally suited for oral products, such as tablets, capsules, dry and liquid nutritive supplements and multivitamin preparations.

Q. *When should Roche thiamine mononitrate be used?*

A. When unusual stability problems occur in dry cereal or pharmaceutical products which are exposed to high humidity conditions in storage. It also may have advantages in certain pharmaceutical products where the pH range is above the safe level for the hydrochloride.

Q. *What about Roche thiamine hydrochloride, Ampul Type?*

A. This original Roche development is specially prepared for use in manufacturing parenteral solutions.

Q. *Can I be sure of a steady supply of Roche thiamine products?*

A. You can. Roche thiamine, always of superb quality, is made by the tons. Roche specializes in the development of vitamins and their manufacture, so you can be assured of a steady supply.

Q. *How are the Roche thiamine products packed?*

A. Roche thiamine hydrochloride, Regular Type, is packed in polyethylene bags in 1 to 25 Kg. drums. Smaller quantities in amber, screw cap bottles.

The Ampul Type is sealed under inert gas in wide mouth, screw cap bottles by the Roche G.I.G. (Gassed in Glass) process.

Q. *Why should I buy Roche vitamins?*

A. Because Roche's scientific production control assures you of uniformly highest quality. Because Roche, pioneer in vitamins by the tons, can meet your need for *any* quantity. Because Roche's research laboratories, both in the United States and abroad, are constantly working to bring you the very latest in vitamin development. Because Roche's representatives and technical personnel are always ready to work with you on solutions to your vitamin compounding and packaging problems. Because Roche has vitamin *know-how*.

Q. *What other vitamins can I get from Roche?*

A. Here is the list: various forms of vitamin A acetate and vitamin A palmitate. Ascorbic acid and sodium ascorbate. Riboflavin. Biotin. Niacin and niacinamide. Pyridoxine hydrochloride. *dl*-alpha-Tocopherol, unesterified and acetate.

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Abreast Of The Markets

Price Decontrol Effects Market Slightly — Lanolin Is Advanced; PABA, Santonine Reduced; Papain Firm

The markets continued to display a definite stability last month, and in only a few segregated cases did any prices rise as a direct result of removing the price ceilings. The most notable example was that of lanolin, in which suppliers advanced their quotations to relieve the pinch caused by the higher raw material costs.

In general the essential oils and botanicals continued as before, unaffected by the decontrol, since a large part of the items were already considerably below the price ceilings.

The essential oils index, as represented by the graph on page 542, dipped slightly, as a result of lower prices in the oils of bergamot, citronella and sandalwood. Dealers indicated that business was quite brisk in many of the oils, with the result that competition in many cases was either forcing the prices of the oils lower, or at least, preventing them from advancing. Clove oil, which has been very difficult to obtain for many months, has been returned to many of the dealers' price lists, because it is now feasible to buy it from the origin at the currently high figures. The spot price now ranges from $10 to $10.50, although little business is expected at these levels.

Adding to the clove oil picture, Givaudan-Delawanna, in *The Givaudian*, states that "clove leaf oil has been sold at $2.18 per kilo c. & f. New York for future shipments from Madagascar, and about 28 tons of this material have been recently sold on the New York market. The stocks of some importers are very low, and, in order to obtain immediate shipment from French ports, premiums have been paid for the oil."

Reviewing the past three months in the essential-oil market, S. B. Penick, in its monthly report on market trends, reports, "Advances have been experienced in lemongrass oil, rue oil, rosemary, citronella-Ceylon, wormseed oil and clove oil. Considerable interest has been evidenced in the imitation clove oil, imitation cassia oil and imitation anise oil. Natural cassia and anise oils are unobtainable from origin as replacement is still prohibited under the embargo, and spot supplies have practically disappeared.

"The downward trend has been maintained in most items," the report continues. "There have been scattered instances where increased replacement costs have been noted due to various factors, but, by and large, the declines have exceeded the advances."

On the botanical side of the picture, there are several items worthy of note, among them, agar, ergot, ipecac root and papain. In each case, a shortage is developing, and the prices have tended to advance. There is a very definite and severe shortage in papain. In spite of this trend, however, the botanicals index for March wavered very slightly and dipped from 215.4 to 215.3. This occurred because, of those botanicals which are used to compute the index, there were only two which affected the result: ipecac root, which advanced, and balsam tolu, which declined.

Lanolin Price Higher

Lanolin advanced to the range between 43½ cents to 48½ cents, depending on the grade desired. It was a development which had been expected a long time but which had been delayed by the price ceilings. As soon as the prices were decontrolled, therefore, the raw-material producers upped their prices, and the lanolin dealers followed suit.

Spokesmen now feel that there will be a great deal of crude wool grease available now, since producers have been holding back, awaiting this lanolin price increase.

Para-Aminobenzoic Acid Reduced

This chemical was cut 50 cents a pound last month and is now being quoted at $2.50 a pound. The reason for the price reduction was an increase in the production facilities of the producing company and economies developed in the production process.

Santonine Reduced Again

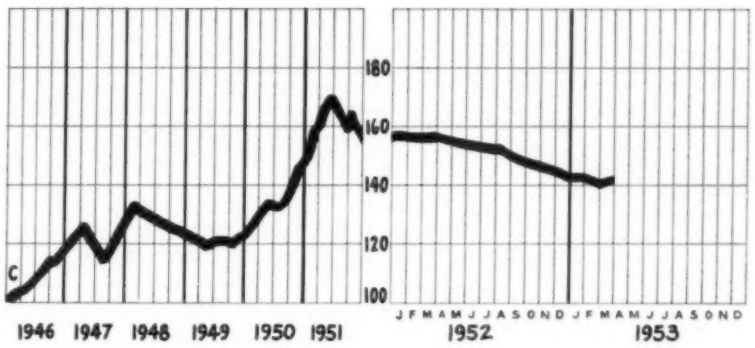
A further decline was announced in the price of santonine last month, setting the range between $76.50 and $80. The previous month it had been established at $95 a pound.

Papain Market in Tight Squeeze

There has been a very sudden increase in the demand for papain, as indicated in the 45-cent jump in the spot price

(*Continued on page 541*)

[25 Cosmetic Raw Materials—Unweighted Price Index. 1926=100.



The cosmetic raw materials index went up slightly from 140.8 to 141.5. Lanolin, menthol and quince seed were higher; balsam tolu was lower.

Prices quoted in this section were current on the first of this month.

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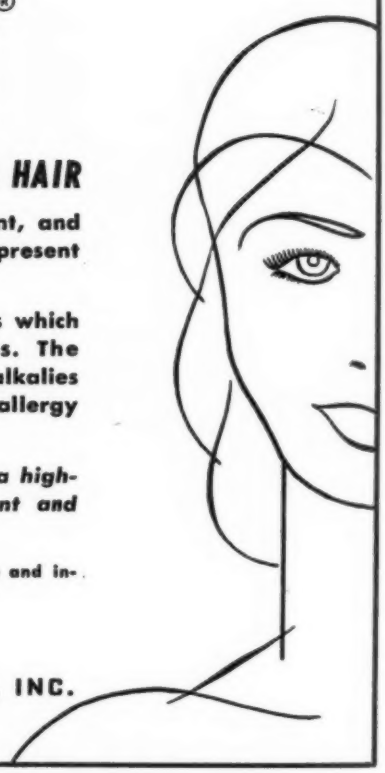


Japanese, Brazilian Menthol Higher, New Crops Expected to be Small; Alcohol up to 48c a Gallon; Ergot Firmer, Ipecac Root Advances

Brazilian menthol last month went up from $5 to $6, and the Japanese material was being quoted at $7. This was brought about by the tight position both in Brazil and Japan. The new Brazilian crop is believed to be on a much smaller scale than that of last year, while the supply from the second cutting in Japan is all but exhausted, with no more available until late in the summer.

The menthol picture would probably be far worse if the demand were active. Up to the present time, there has been very little interest in the product among consumers, although dealers fully expected rather heavy consumer replacements during the first part of the year. With the Spring months already here, demand will probably fall off further until the Fall and early winter.

One estimate, to indicate that this year's supply is less than last year's, indicates that the menthol production in 1953 is expected to be about 100 tons. Added to the 70-ton carry-over, this makes a total of 170 tons for the entire year, as compared with 225 tons for 1952.

Agar Becoming Firm

In some quarters the price of agar has been reduced slightly as a result of lower-priced material entering this country from Japan. Considering the market as a whole, however, this quantity is such a small part that some spokesmen do not feel it will have much effect on the spot price. In fact, some sources report that the spot stocks of agar have been selling very briskly, to the extent that several grades of the botanical are now sold out, and others are expected to be in the same condition before long.

To counter these developments, the new-crop material will soon be available, and this will have a depressing effect on the market, though it will not be as great as had originally been hoped.

The average opinion in the market is that the price of agar, now extending between $2.10 and $2.25, will remain steady for the time being but will drop off somewhat when the new crop makes its appearance.

Alcohol Very Active

With demand for alcohol on the increase in recent months, producers have stepped up their timetables to meet the need. On the first of April the price of pure alcohol was established at 48 cents a gallon.

Now that the price of ethyl alcohol is on the increase some authorities expect to see lower-priced alcohol imported into the United States from foreign sources.

The following data was released from the Alcohol and Tobacco Tax division of the Bureau of Internal Revenue, Treasury Department, on March 24, including the supply, production, withdrawals and stocks of ethyl, completely denatured and specially denatured alcohol during the month of January, 1953, as compared with January, 1952.

	1952	1951
Production	Gallons	
‡Ethyl	46,160,978	42,253,911
*Completely denatured	42,517	74,980
*Specially denatured	18,994,249	26,030,991
Withdrawals		
‡Ethyl, tax paid	1,814,813	1,992,958
tax free	42,004,458	55,899,101
*Completely denatured	46,240	83,390
Specially denatured	20,178,795	24,684,914
Stocks		
‡Ethyl	84,263,088	94,441,657
*Completely denatured	33,369	33,440
*Specially denatured	7,050,536	10,444,578

*Wine gallons. ‡Proof gallons.

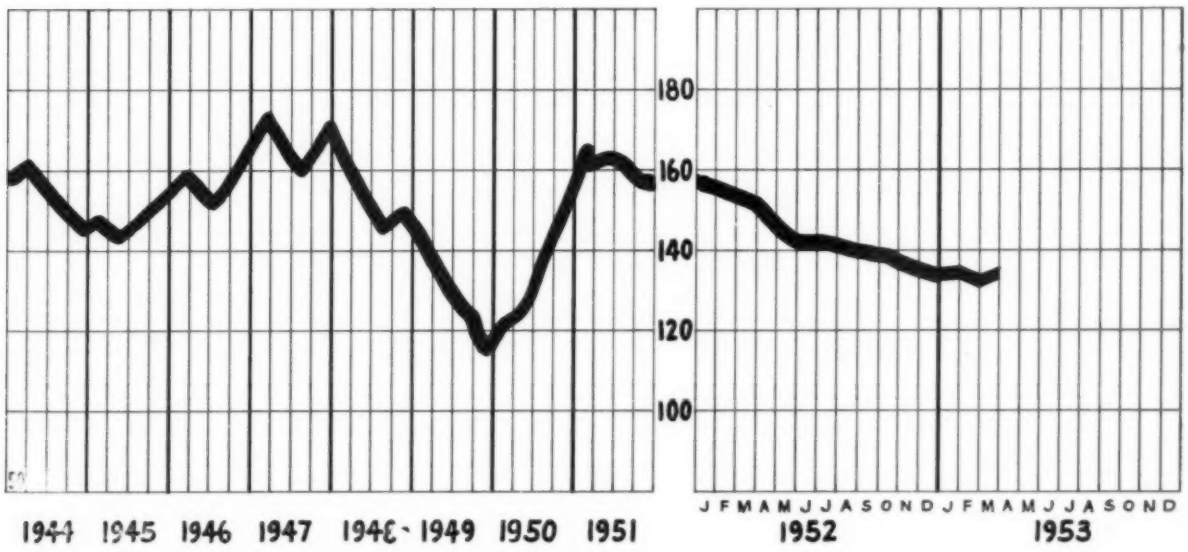
Ergot on the Upswing

New lots of ergot have been arriving in the United States from Portugal and Spain, and they have become increasingly higher priced. At the same time, there have been other quantities of the botanical in stock here at lower prices, but these are believed to be from other sources and may possibly be of poorer quality. The spot price of ergot stood at $3.25 a pound toward the end of last month.

Ipecac Root Higher

This botanical advanced 25 cents last month, to be quoted from $6.25 to $6.50 a pound. The best quality, high-testing root is considerably more expensive at the origin than it was formerly, and it is available only in limited quantities. Added to this difficulty is the increased demand which has been developing

50 Raw Materials—Weighted Price Index. 1926=100.



The price index of fifty commodities for March went up from 132.6 to 134.5.

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March Price Changes

UP

Benzoin Gum, Sumatra 2c
Echinacea Root 60c
Ipecac Root 25c
Lanolin 8c
Lemon Oil, Calif. 25c
Lemongrass Oil 10c
Menthol, Natural $1
Papain, Pure, Powdered 45c
Quince Seed 35c
Spearmint Oil 50c
Wild Cherry Bark, Rossed 8c

DOWN

Asafoetida 8c
Balsam Copaiba, S. Amer. $1.35
Balsam Tolu 35c
Barberry Bark 20c
Bergamot Oil $1
Cade Oil 5c
Cardamom Oil $7.50
Celery Oil $1
Chamomile Flowers, Hungarian 5c
Citronella Oil, Ceylon 5c
Coriander Oil $1.50
Cumin Oil 25c
Lime Oil, Distilled 15c
Linaloe Oil, Mex. 35c
Mace Oil, Distilled 25c
Mercury $11
Orange Oil, West Indian 50c
P-Aminobenzoic Acid 50c
Sandalwood Oil 50c
Santonin $18.50
Sassafras Oil 5c
Senega Root 5c

recently. One botanical house reports, moreover, that the stocks of borderline root—with a questionable amount of alkaloid material—is to be had in limited quantities also. This latter material is selling for prices which are a little lower than the first-rate material.

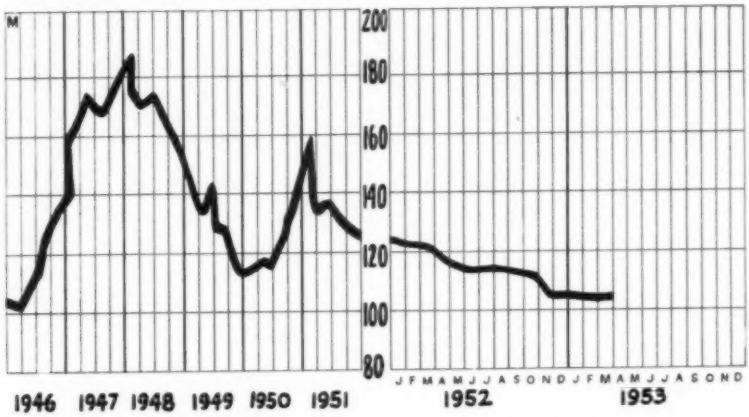
Papain Market in Tight Squeeze

(*Continued from page 537*)

to the level of $6.25 a pound last month. The better grades extend up to $7.50. To make the situation more critical, even the source of supply, from which the poorer grades of papain are derived, is providing only about half the normal quantity. Added to this, according to a spokesman in the field, of the small quantities that have been arriving in this country, a large proportion have been half strength or less in respect to quality.

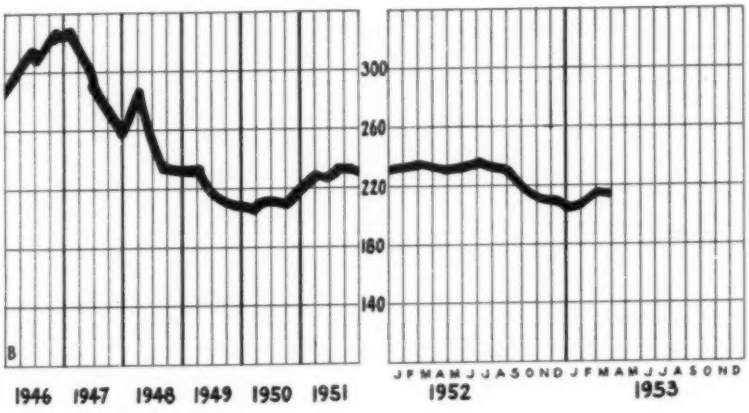
This market is in a very serious condition at the present time. There is no relief in sight.

15 Medicinal Chemicals—Weighted Price Index. 1926=100.



The medicinal chemicals index went up slightly from 104.1 to 104.5. Menthol was up; mercury was down.

15 Botanicals—Weighted Price Index. 1926=100.



The botanicals index dipped a trifle from 215.4 to 215.3. Ipecac root was higher; balsam tolu, lower.

Echinacea Root up 60c

Echinacea root advanced by as much as 60 cents last month to $1.35. This was a nominal price, however, since there was very little material around at that time.

Juniper Berries Firmer

The new crop of juniper berries was smaller than had been anticipated, with the result that there are very few first-quality berries left in the market. Dealers report that as soon as a sizable quantity appears on spot, the berries are quickly sold. While some of the poorer-grade berries are also on the market, these are similarly high priced.

Angelica Root Difficult to Get

This root, which is derived from the Black Forest region in Germany, and from other areas now controlled by Russia, has become very scarce, with replacements virtually impossible at the present time.

While there is some angelica root available from other sources, according to one authority, this material is either substandard as far as quality is concerned, or it is available in such small amounts that the supply cannot possibly keep up with the demand.

Balsam Copaiba Reduced

The price of balsam copaiba dropped by as much as 60 cents last month, when the inside quotation went down to $1.15 a pound. This has been attributed to the fact that production at the origin is going along very well and is more than satisfying demand in this country. Coupled with this is the sluggish market now appearing on spot. In spite of the low prices very few consumers are taking advantage of them by entering the market.

Chamomile Flowers Stocks Low

Hungarian chamomile flowers are now selling at 95 cents a pound on spot for the few lots that are for sale. With no immediate replacements available, and with no prospects in sight at the present time, it appears that these flowers will become more costly as time goes on.

Cassia Oil Scarcer

The immediate outlook in cassia oil continued to worsen during March, with some of the essential-oil houses dropping the item from their lists. Others had a little oil to sell but were being very stingy about it because of their own meagre stocks. In a great many cases, although dealers were publishing prices ranging from $5.50 to $8.50, these prices were largely nominal.

Clove Oil Remains High

Now that the price ceiling has been removed, most dealers are quoting this oil from $10 to $10.50, whereas prior to this time, they had merely indicated a lack of oil within acceptable ranges. This condition has not altered the American clove-oil industry yet, since no distillation operations have been resumed. Furthermore, at this high price, many of the consumers have either continued to postpone their purchases, or they have turned to substitute products.

Anise Oil Remains Scarce

While there have been recent reports of some anise oil reaching this country through Holland, nevertheless, the overall firm condition of this oil has not changed. The price early this month was ranging between $2.20 and $2.75, the high level of which is being maintained because of the dire shortage of material coming out of China proper.

Bergamot a Little Lower

In keeping with the recent downward trend of the oil, Bergamot declined a trifle more last month when the inside price was established at $12.

Lemon Oil Stocks Very Low

Reflecting the continued scarcity of this commodity, lemon oil advanced 50 cents last month and was selling at prices ranging from $6 to $6.50 per pound, depending on the dealer. There is very little California oil to be had at the present time. As a result, a greater load has been placed on the Italian oil, and, according to some reports, most of these foreign stocks have been depleted by recent orders also. With the heavy consuming season just around the corner, it seems right now as if the lemon-oil market will become exceedingly firm for quite a long time. The Italian oil is being quoted in the range between $5.65 and $9.50 per pound,with some sources intimating that there may not be enough to meet the Springtime demand.

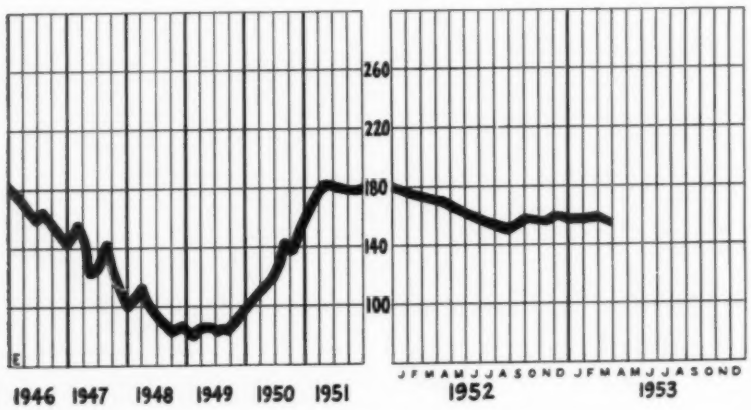
Orange Oil Remains Soft

In marked contrast to lemon oil, the orange oil has become increasingly lower in price through the latter part of 1952 and right up to the present time. The cold pressed oil is selling at figures from $1 to $1.75, and the distilled, from 70 cents to $1.25. From the consumer's point of view, the market is very favorable, especially with the heavy consuming season immediately ahead.

Lemongrass Oil Firmer

Reflecting the increased prices at the origin, lemongrass spot prices last month were 10 cents higher at $1.30 a pound. Some dealers put their figures higher at $1.65, which seemed to be the more logical level under the circumstances.

15 Essential Oils—Weighted Price Index. 1926=100



The essential oils index went down from 156.0 to 153.9. Bergamot, citronella and sandalwood oils were lower.

Peppermint Oil Steady

There were no abrupt changes in peppermint oil in recent weeks; however, stocks of high-test material are said to be dwindling, enabling producers to tag them with firm prices. On the other hand, some sources believe that the current demand is just strong enough to maintain the present prices. If this demand falls off, they say, the prices will soften correspondingly. At the moment, the natural oil is selling in the range between $5.75 and $7.25, and the redistilled, from $6.25 to $8.

Spearmint Oil Continues Climb

In line with recent months, spearmint oil advanced further during March to the level of $8.50. In some quarters, dealers have withdrawn the item from their quotations in the belief that producers were putting their prices up too high. These sources expect the price structure to break soon if the level advances much more.

Haiti Oil Exports Increasing

Haiti exports of essential oils as a group, during the fiscal year which ended September 30, 1952, increased both in quantity and value, according to a report in *Foreign Commerce Weekly*.

Exports in 1951-52 amounted to 117,354 kilograms (1 kilogram = 2.2046 pounds), valued at 5,828,413 gourdes (5 gourdes = US$1), compared with 88,095 kilograms, valued at 4,927,199 gourdes during the preceding fiscal year.

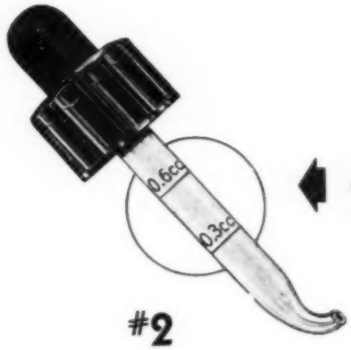
Lime oil was the only oil whose price remained fairly steady during 1952. As for lemongrass oil, the drastic decline in its price from more than $2 per pound to less than $1 caused Haiti to curtail its production very severely in the third quarter of 1952.

The production of essential oils in Haiti is almost entirely for export; a negligible quantity is known to be consumed locally.

In order to indicate the extent of essential-oil operations carried on in Haiti, the following table is reproduced. This tabulation represents the exports from Haiti in the past three fiscal years, in kilograms.

Oil	1949-50	1950-51	1951-52
Amyris	34,986	123,22	10,208
Citronella	328	...	...
Lemongrass	16,780	43,440	63,776
Lime	8,944	8,346	12,670
Neroli	199	10	81
Petitgrain	5,872	8,252	3,401
Sweet basil	22	42	...
Vetiver	17,545	20,683	20,387
Others	—	—	6,831

New Perfection DROPPING PARTS



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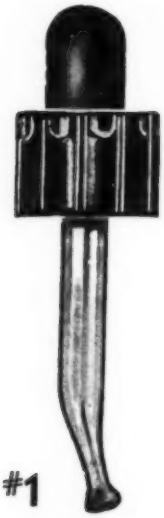

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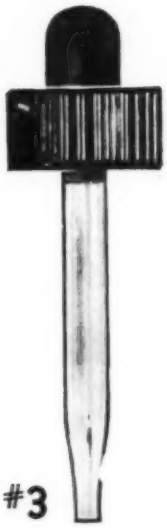

#3

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Patent Thoughts and Trends

(Continued from page 533)

A liquid lip-rouge composition comprising the following ingredients:

	Per cent by weight
Solvent	50 to 90
Gum benzoin	3 to 40
Cetyl alcohol	1 to 25
Lecithin	1 to 25
Dye	0.05 to 3
Perfume	0.03 to 2

U. S. 2,578,210—Liquid Face Rouge—issued to Leola Silva.

The essence of this invention is the provision of a liquid rouge consisting essentially of an aqueous solution of two dyes.

Claim 1, reproduced here, identifies the dyes, as well as giving an idea of the amount of protection obtained:

> Liquid face rouge consisting essentially of a solvent selected from the group consisting of water and aqueous ethyl alcohol, and in solution in said solvent a first color component consisting of disodium-2,7-dibromo-4-hydroxymercurifluorescein and a second color component selected from the group consisting of 1-xylylazo-2-naphthol, the disodium salt of 9-o-carboxyphenyl-6-hydroxy-2,4,5,7 tetraiodo-3-isoxanthone, the trisodium salt of 1-(4-sulfo-1-naphthyl azo)-2-naphthol-3,6 disulfonic acid, the disodium salt of 2-(5-sulfo-2,4-xylylazo)-1-naphthol-4-sulfonic acid, and the disodium salt of 1-psuedo - cumylazo - 2 - naphthol - 3,6 - disulfonic acid, the first color component being present at a concentration in the range 0.003 to 0.2 per cent by weight and the second color component being present at a concentration 1/3 to 3 times that of the first component.

Recent Patents

2,628,240—**Upjohn Co.—3 - Beta - Hydroxy - 5,7,9 (11)-Pregnatriene-12,20-Dione.**

2,628,247—**Hoffmann-LaRoch e Esters of Di-Aryl Substituted Acetic Acids.**

2,628,248—**Upjohn Co.—1 - Alkyl - 2 - Phenethyl-6-Substituted-Cyclohexanone-3-Compounds.**

2,628,250—**Hoffmann-La Roche — Vinylisopropyl Acetoacetate.**

2,628,251—**Hoffmann-La Roche — 3,7,11 - Trimethyl-1-Dodecen-3-yl Acetoacetate.**

2,628,887—**American Sterilizer Company—Sterilizing and lubricating Surgical Instruments.**

2,628,930—**Hoffmann - La Roche Inc. — Aqueous Emulsions of Lipoid-Soluble Vitamins.**

2,628,961—**Miranda Bros. Trading Corp.—Spleen Extract.**

2,628,962—**Mallinckrodt Chem. Works—Preparation of Dihydrocodeinone, Dihydromorphinone and Codeinone.**

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New York 38, N. Y.

COSMETIC RAW MATERIAL HEADQUARTERS

2,628,966—Merck & Co., Inc.—Reduction of Steroid Ketones with Alkali Metal Borohydride.

2,628,975—Park, Davis & Company—Preparation of Substituted Amino Propane Diol.

2,629,719—G. D. Searle & Co.—Aminoalkyl Thioxanthene Oxides.

2,629,724—Abbott Laboratories — Therapeutic Antimony Compounds.

2,629,733—Upjohn Company — N - Oxyalkyl - p - Aminobenzoates

2,629,734—Upjohn Company — N - Oxyalkyl - p - Aminobenzoyl Glutamates.

2,629,736-7—G. D. Searle & Co.—Basically Substituted Aroylbenzamides.

2,629,738—Carrol S. Loeb—N-Benzyl-Ethoxynaphthylpropanolamines.

2,630,399—Marion B. Sulzberger, et al—Chloramide Skin Protecting Cream.

2,630,400—Mozes Juda Lewenstein — Narcotic Medicaments Containing Antispasmodics.

2,630,434—Upjohn Company — Purification and Hydrolysis of Esters of Folic Acid.

2,630,435—Burroughs Wellcome & Co.—N-Benzohydryl-N-Methyl Piperazines.

2,631,119—Edgar A. Ferguson, Jr.—Therapeutic Appetite Satient Composition.

2,631,120—Publicker Industries Inc.—Riboflavin by Ashbya Gossypii.

2,631,145—Donald F. Othmer et al—Separation of Essential Oils into Component Fractions.

2,631,146—American Cyanamid Company — Biguanide Salts of Penicillin.

2,631,149—Upjohn Company—Folic Acid Production.

2,631,152—American Cyanamid Company — Guanylurea Salts of Penicillin.

2,631,154—Sterling Drug Inc.—1 - (Hydroxyalkylaminoalkylamino)-4-Methylxanthones.

2,631,155—Physiological Chemicals Co.—Crystalline Calcium Ascorbate.

2,631,163—Upjohn Company — Hydroxy Acetal Compounds.

2,631,164—Upjohn Company—Keto Acetal Compounds.

Court Cases

2,027,967—Anthelmintic, Illinois—Moorman Mfg. Co. v. Staley Milling Co. Decree in *favor* of plaintiff.

2,120,667—B. Gruskin, Therapeutic agent for use in treatment of infection (chlorophyll), Rystan v. M. P. Angland et al. Dismissed without prejudice. Chicago.

2,120,667—B. Gruskin—Therapeutic agent for use in the treatment of infection (declaratory judgment), D.C., S.D., N.Y., Bristol-Myers Co. v. Rystan Co., Inc. Dismissed.

(Continued on page 546)

MODULAN

MODULAN is a chemically treated lanolin containing all the constituents of lanolin deliberately modified by a unique treatment to introduce new and valuable properties.

It represents a radical departure from lanolin in structure, function and odor, and more closely approximates the normal human skin fat.

Investigations now being conducted indicate that **MODULAN** is hypo-allergenic.

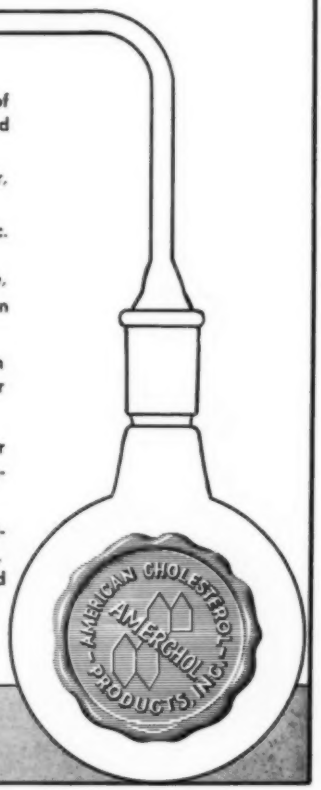
SOLUBILITY— Because of induced chemical differences in molecular structure, **MODULAN** is far more hydrophobic than lanolin and forms clear solutions in mineral oil.

TEXTURE— **MODULAN** solutions leave water-resistant protective films which are inherently softening and prevent defatting. These films are waxy rather than tacky and are very agreeable to the touch.

COMPATIBILITY— Because of its outstanding compatibility with oil-in-water emulsions and with soaps and shampoos, **MODULAN** can be used in high concentrations without affecting stability and foaming.

In addition to the above mentioned advantages, **MODULAN** deposits an emollient, protective film and is therefore highly effective in baby oils, hair dressings, soaps, shampoos, oil-in-water creams and lotions, lipstick, and other cosmetic and pharmaceutical products.

Detailed information available on request.



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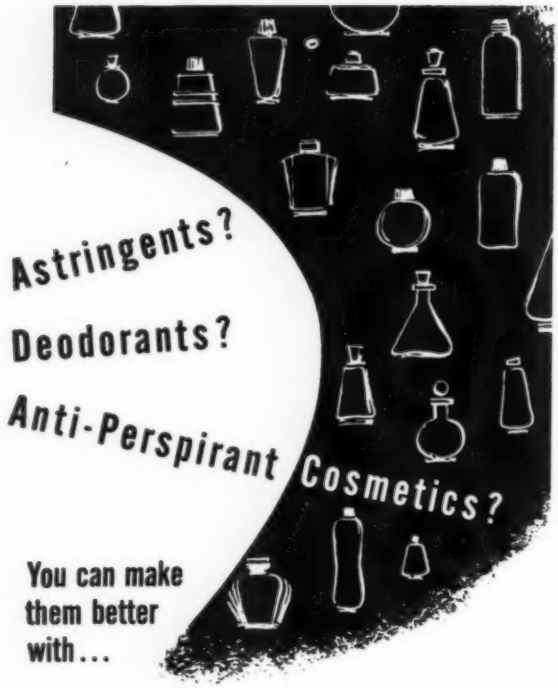

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(*Continued from page 545*)

***U.S. 2,471,394*—R. Gubner, Salicylate and Succinate Therapeutic Preparation, Filed December 4, 1952 (N.Y.C.), Dolcin Corp. v. Freeman Drug Products, et al.**

***2,471,394*—R. Gubner, Salicylate and succinate therapeutic preparations filed Sept. 11, 1952, N. Y., Dolcin Corp. v. Hollings-Smith Co., Inc.**

A.P.M.A Meeting

(*Continued from page 467*)

they could have the information in time to draft a bill to be introduced in the present Congress. Because of this request, the HIF increased materially its appropriation for this particular project so that it could be finished in the time requested by the Senate Committee.

Dr. Feirer rejected the idea that the election of last November eliminated the need for the work of the HIF. He said that this election only afforded a breathing spell of perhaps two years, or at the most, four years. Only recently, said Dr. Feirer, Representative Dingell—known through his long association with the Murray-Wagner-Dingell Bill for compulsory sickness insurance—said that if the present Congress does not do something about this subject, they will get a swift kick in the britches from the people of the country.

Association President Michael Francis Charley reported on the situation facing the industry, and Association Executive Secretary Dr. J. O'Neill Closs reported on the problems before the Association during the previous year.

Michael Francis Charley, of Standard Pharmacal Co., Chicago, was reelected president for the coming year. Other officers elected are: Robert A. Hardt, Hoffmann-La Roche, Eastern Vice-President; Kenneth F. Valentine, Pittman-Moore Company, Central Vice-President; Jack Schopflin, E. S. Miller Laboratories, Western Vice-President; S. B. Penick Jr., S. B. Penick & Company, Treasurer.

Directors of the Association are: 1-year term, Ray A. Johns, Kremers-Urban Company; William B. Graham, Baxter Laboratories; E. C. Robins, A. H. Robins Company; Myron Walker, Walker Laboratories; 2-year term, W. S. Bucke, Lafayette Pharmacal Company; Howard B. Fonda, Burroughs Wellcome & Co.; Charles F. Miles, Ames Company; Franklin P. O'Brien, G. D. Searle & Co.; F. N. Schwartz, Bristol Laboratories; 3-year term, G. P. Snow, Hyland Laboratories; Robert N. Fullerton, Columbus Pharmacal Company; Nelson M. Gampfer, The Wm. S. Merrell Co.; Boyd O'Connor, Ayerst, McKenna & Harrison; Henry Wendt, Lederle Laboratories Division, American Cyanamid Company.

Dr. John O'Neill Closs, who has been Executive Secretary of the Association, was appointed to the new office of Executive Vice-President of the Association.

Maschmeijer

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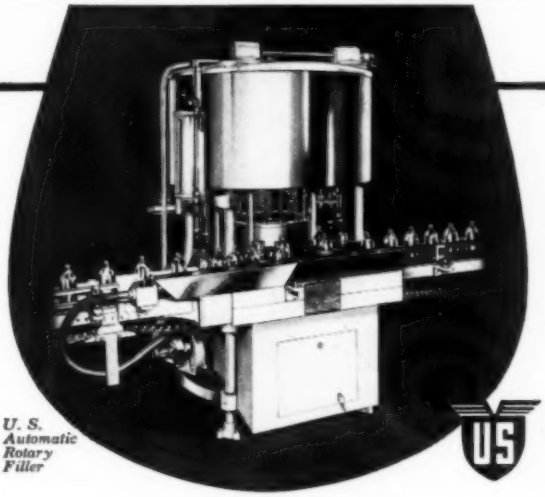
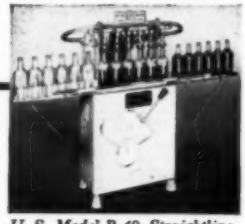


U. S. Automatic Rotary Filler



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News of a new baseball season is again happy relief to political squabbles, local and national. It's a pleasure to hear once more that fantastic sums of money are being used to finance baseball careers instead of political ambitions.

•

Accounts of new rookies from Podunk, who hope to replace Babe Ruth, Lou Gehrig and Walter Johnson, are always amusing. Except, of course, when the kids make the grade and proceed to whip your favorite team in a tight pennant race.

•

This is not unlike politics, where the ward heeler you laughed at becomes Mayor of the town. The only things more boring than a ward heeler in a Get Out the Vote Campaign is an after-dinner speaking Mayor in a break out the bicarb routine.

•

The advantages of baseball over politics, however, are tremendous: (1) Rain or snow can end a dull game. (2) The fans can walk out if they don't like the proceedings. (3) You can't veto a pitch hit over the centerfield fence.

•

But a point of similarity may be borrowed from baseball for politics. Now that the Presidency is limited to two terms, an Act of Congress may also confine the New York Yankees to four pennants in five years.

•

The only disturbing feature of opening day ceremonies in major league cities comes when a local official pitches out the first ball. Generally, the sports writers indicate he can do it with either hand, paralleling his ability to speak out of both sides of his mouth at the same time.

•

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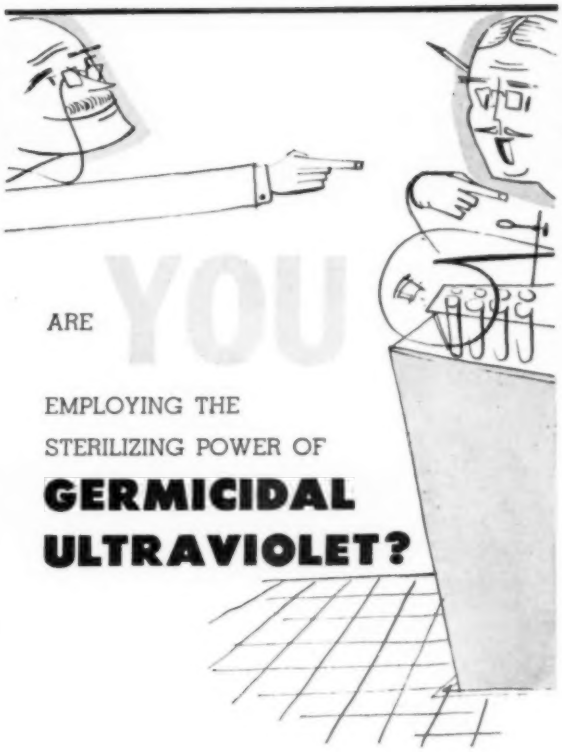

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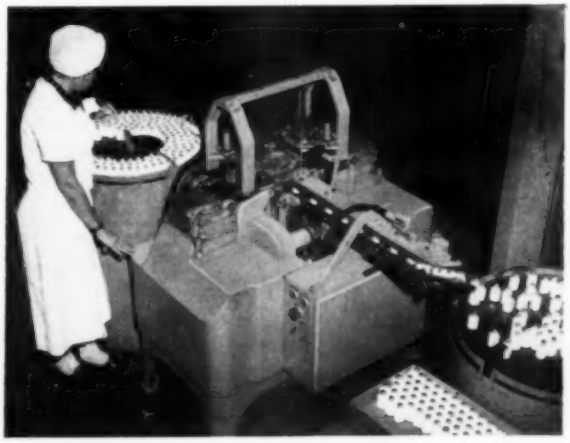

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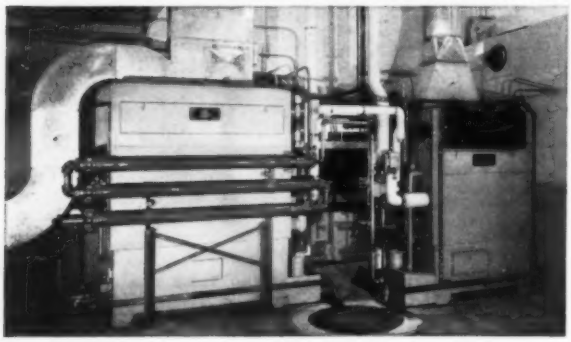

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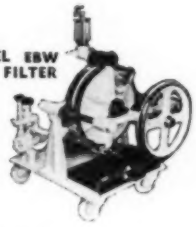

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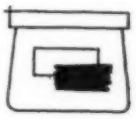

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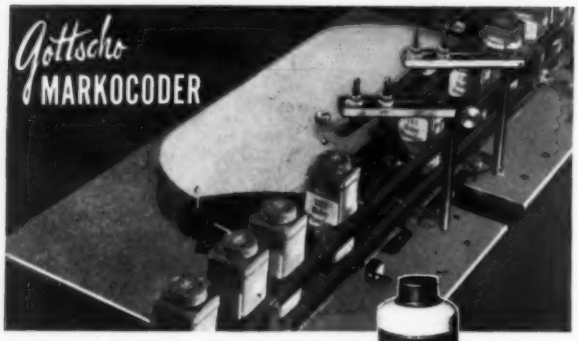

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Shelf Life Stability of Cosmetics

(*Continued from page 465*)

work in the particular type of emulsion employed. None of these methods are absolute and should be regarded as indications rather than stability forecasters. The best method of checking stability is storage under different sets of standard conditions over a year's period. The accelerated tests are of value only in conjunction with experience on the different types of emulsions where they are being employed.

Pharmaceutical Industry Progress

(*Continued from page 475*)

ability as well as a larger manufacturer, in a relative sense; and indeed he may actually exercise it better, in that sense. Of course, a larger manufacturer will always have greater financial strength and he may always use it to maintain a bigger business; which, however, is a normal economic condition. But the great fact remains that money is not synonymous with brains; and if a smaller manufacturer has the necessary brains and enough financial resources in his own circumstances, he can successfully cope with stronger financial competition as experience has amply proven. Indeed one might prefer to own a good smaller pharmaceutical business than to be the paid officer of a conspicuously larger pharmaceutical business, for reasons both of net income and personal happiness.

In conclusion: the great actual modern and potential future business prosperity of the pharmaceutical industry has progressively caused its financial and structural reorganization; and this is a situation which promises to continue, for a distance that we cannot now measure. It involves an increasingly greater financial investment in this industry, from outside sources and by the general public; it also involves an increasingly greater outside entry into the business of this industry, either originally or by purchase or through merger; and it further involves a new merger development, through a vertical integration of medicinal chemical and pharmaceutical businesses.

These are basic evolutionary changes having significant economic consequences to the pharmaceutical industry, in the long and broad view; and they affect larger and smaller manufacturers alike, with a variation only in degree. For example: they involve a greater financial ability for business progress, through more drug research and by stronger production and marketing action; and that is another reason for larger business progress hereafter, by this industry. Furthermore, they also involve a highly increased business competition in this industry. Such competition is sure to be constructive from a production standpoint; it should be normally constructive from a marketing standpoint; but it can be abnormally destructive from the latter standpoint.

Hence my final word at this time is to repeat what I

said in the beginning of this address, namely: The pharmaceutical industry is by its very nature a necessarily ethical one, which must have the highest standards of business ethics and public responsibility. These standards are well defined in the APMA Declaration of Belief; and this industry can only enjoy a complete measure of future business prosperity, by strictly adhering to them.

Pharmaceutical Competition

(Continued from page 463)

finally one company sells nobody except the service wholesalers. In the case of this last manufacturer, even the biggest chain store must obtain the goods from a service wholesaler.

Sampling to the physician is a large part of pharmaceutical merchandising. One house which is of great importance in the industry today started its merchandising campaign some thirty years ago by mailing a dozen bottles of its first product—an excellent tonic—to all the doctors every month. As other products were introduced they followed this same plan. It was only within the last few years that this manufacturer went about getting together a staff of detail men. In addition to the giving of samples to doctors, pharmaceutical manufacturers send him things for his desk, things for his bag, and other beautiful and well made accessories for use in his practice.

But within the quite near future the pressure on the many pharmaceutical manufacturing houses to hold up their sales and their profits, and to maintain their positions in the industry, is going to bring about competitive practices undreamt of in this particular branch of drug marketing. The forward rush is at least temporarily halted, and the gains must be consolidated. This means greater economy and greater pressure on sales activities.

Industrial Housekeeper at Lederle

(Continued from page 477)

his higher standing on housekeeping. They collected bets on the day of his undoing. An inspector had found a roll of his wire on the wrong floor—the plumber's.

The Housekeepers solve problems on the spot when possible. Research Area Inspector Morris Buxton recently saw a chimney in need of re-pointing. He arranged to have it done. When Tom Brown, Chemical Production Area Inspector, saw broken windows, he asked the man who broke them to arrange for repairs. Mrs. Jean Mercer, "graduate" of the housekeeping staff, redecorated ladies' restrooms so effectively that she has been placed in charge of Lederle's sixty-two ladies' restroom and their staff of ten.

"Shanty-town," where thirteen independent contractors store assorted equipment in temporary wooden structures, and where one contractor may have as many as six shacks, has recently become a major housekeeping problem at the rapidly-expanding Lederle plant.

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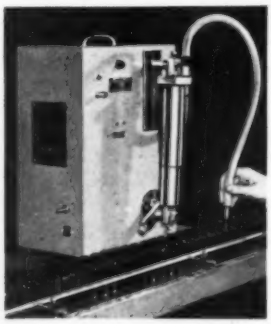

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To meet it, Bill Whitten's men have printed a neat twelve-page booklet, "Contractor's Instructions—How to Make Our Association More Satisfying."

Latest housekeeping move is a reminder campaign aimed at all employees. Slogans like these decorate sanitation articles in work areas:

"Push Me Around—I don't mind," on broom racks.

"We accept deposits 24 hours daily—it pays dividends," or "No ifs or ands—just butts," on waste cans dotting the grounds.

As to future projects, Whitten says, "We're just beginning. Ten years ago only one man here was interested in housekeeping. Lederle really tackled the problem in the fall of 1950."

Bill Whitten knows housekeeping from the ground up. He should. He started at Lederle 14 years ago—as a janitor.

Masking Medicinal Flavor

(Continued from page 469)

The masking of pharmaceuticals is not as simple a matter as one might imagine from reading this article. Usually, testing is limited to a very few times a day because the taste buds are readily immunized by the undesirable character of the medicine, and until this state wears off, a true evaluation of the flavor's efficacy cannot be made. Then, too, pharmceuticals that have been satisfactorily masked for the time being must be given an aging period, usually one week, to establish the trend of flavor intensity in prolonged contact with with the media. On many occasions this aging test is conducted at elevated temperatures which will accelerate any chemical reactions that might take place. If the flavor disappears or proves unsatisfactory after the shelving period, as it does many times, new theories must be developed, new compounds made on the basis of these theories and the work of testing begun again. For this reason, the masking of medicinals can be a long and arduous task; yet in spite of its many discouragements the work is fascinating in its challenge to the ingenuity of the flavor chemist.

Diaper Rash

(Continued from page 471)

monia fumes and to suppress the bacteria which produce the decomposition. In this connection, it should be noted that although boric acid is generally classed as a rather safe substance,[2] it is capable of causing harm.[13] Poisoning has resulted not only from the accidental ingestion of the substance, but also from toxic absorption when applied to large excoriated skin areas, including the diaper region.[24-28]

During recent years, considerable work has been done with the quaternary ammonium compounds as diaper impregnating agents. One compound[12] that is especially suited for this purpose has been given the generic name, methylbenzethonium chloride, by the Council on Pharmacy and Chemistry of the A.M.A.[29]

According to the Council's report, when accepting this compound for inclusion in "New and Non-official Remedies," the systemic toxicity and local sensitizing properties of methylbenzethonium chloride are sufficiently low to permit its safe use in the home for the disinfection of infant diapers.

The efficacy of this compound has been demonstrated by the work of Benson and his colleagues,[2-6] who found it to be a most effective bactericide against *B. ammoniagenes*. In their clinical studies, they treated a total of 500 cases of diaper rash with methylbenzethonium chloride-impregnated diapers. Of these cases, 436 cleared promptly within one week. Working with a closely related compound, alkyl dimethyl benzyl ammonium chloride, Pfeffer and Smith[21] found it to be effective in curing ammoniacal diaper dermatitis in 62 out of 64 cases when used to impregnate the diapers after washing.

Of importance in connection with the use of quaternary ammonium compounds to impart a bacteriostatic action to fabrics are the comprehensive studies made by workers[30] of the U. S. Department of Agriculture. Working with five representative compounds, they found that there were wide differences in the quantities needed to provide the desired results. Their findings emphasized the necessity for accurately controlling the concentration of the specific quaternary ammonium salt, the temperature of application, and the exposure time.

Stephens and his associates[20] have called attention to certain limitations inherent in these compounds. Among these limitations is their rapid loss of efficiency in the pressure of even small amounts of soap and anionic detergents, organic material, and metallic ions such as calcium and magnesium found in hard water. They found that these disadvantages were overcome through the use of rinses containing o-benzyl-p-chlorophenol. This compound has a low oral and cutaneous toxicity, with no evidence of absorption through the skin. No rash has been reported from its use in the treatment of diapers worn by 1,500 children. Effective in high dilutions, the antibacterial potency of p-benzyl-p-chlorophenol is said to rank with that of the best of the quaternaries and mercurials.

Physiologic and nutritional factors also play a part in the occurrence of diaper rash and correction of these conditions may prevent the dermatitis or hasten its healing. For example, Tobias[5] advises that the carbohydrates in the feeding formula be reduced as part of the treatment. Andrews[14] cites studies which indicate a greater susceptibility to diaper rash in babies who depended solely upon milk for vitamin A without supplemental use of cod liver oil.

As previously noted, the urine, as voided by infants, may cause a dermatitis. Thus, in cases where a highly concentrated urine causes scaldlike irritations it is advisable to increase the fluid intake by such measures as: (a) urging the drinking of water and fruit juices between feedings, (b) restricting the foods that may cause acid urine, including tomato, asparagus, rhubarb,

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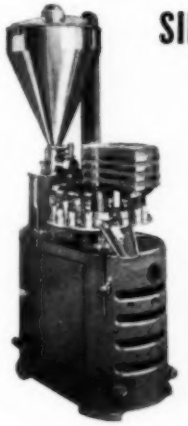

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prunes and prune juice, and (c) the addition of small amounts of sodium citrate (e.g. 0.3 to 0.6 Gm. three times daily) to aid in neutralizing a very acid urine.[12]

Mention has also been made of Goldstein's[3,13] view that many cases of diaper dermatitis are due to the ammonia already present in the voided urine as a result of a negative nitrogen balance. In earlier investigations,[31] he had noted that the oral administration of thiamine, at the rate of 60 mg. daily in the infant's formula, was effective in clearing the urine of the ammonia and in bringing about improvement in the dermatitis. Since this effect could not be explained in terms of thiamine's known vitamin activity, other substances were studied to determine if similar effects could be obtained. Results obtained with the amino acid, methionine, were equivalent to those obtained with thiamine.

In subsequent studies, the amino acid rather than the vitamin was used because it is easily administered, has a more acceptable taste and odor, and produces less gaseous discomfort. In this work, more than 500 infants with diaper rash were treated with methionine in the form of a granulated preparation containing 10 per cent of dl-methionine plus 90 per cent of dextrose and lactose. Therapy was successful in all but three cases. The excess ammonia consistently disappeared from the urine in three to four days. The diaper dermatitis and ulcerations cleared in from seven to ten days. On the three cases that did not respond to methionine, thiamine was given and good therapeutic results were obtained.

According to Goldstein, the methionine, by arresting the depletion of the body's protein reserves, quickly restores nitrogen equilibrium. When this occurs, the ammonia content of the urine returns to normal and the dermatitis disappears without local treatment.

Nonetheless, local therapy remains an important consideration in both the prevention and treatment of most cases of diaper rash. Dusting powders, for example, have a high place in the care of this condition. While many of the familiar baby powders are probably quite effective for this purpose, special formulations or modifications are sometimes recommended by dermatologists and pediatricians. Thus, Lowenberg[1] suggests the use of a dusting powder composed of equal parts of calamine, zinc oxide, Fuller's earth and bismuth subnitrate. This powder, says he, soothes the skin in addition to being highly absorbent.

As part of their regimen for treating diaper rash, Peck and Klein[32] recommend the use of a dusting powder to which five per cent of boric acid or from five to 10 per cent of thymol iodide have been added. Andrews[17] gives the following prescription for an antiseptic dusting powder that is useful in cases of diaper dermatitis:

Menthol	**0.03 part**
Thymol iodide	**0.40 "**
Zinc stearate	**1.00 "**
Magnesium carbonate	**0.60 "**
Boric acid	**4.00 parts**
Talc, to make	**30.00 "**

Ointments are used to provide both protective and healing effects. As noted in one discussion[12] on the treatment of diaper rash, exposure of the irritated skin to the air or sunlight and the use of a protective covering such as zinc oxide ointment or paste, may cure the condition and prevent its recurrence.

Similarly, in considering the active treatment of the condition Lowenburg[1] says that in the nursery the usual practice is to keep the infant lying on its stomach with the undiapered buttocks exposed to the heat of a lamp. In addition various oils and ointments are applied. Among the latter are boric acid ointment, zinc oxide ointment, cod liver oil ointment or combinations of such preparations. Oils include olive, mineral or commercial baby oils. It is observed that results with these methods are variable and are generally directly related to the diligence of the mother or nurse.

Various ointments and pastes have been recommended for the treatment of diaper rash. Bivings[10], for example, reports that for years his favorite preparation has been a soothing paste made of powdered starch mixed with white petrolatum to the requisite thickness and body. This is applied freely during the day and at bedtime; giving the skin a chance to heal while the source of the ammonia is removed by the inhibiting action of the antiseptic in the treated diapers.

Starch is also present in the following ointment which has been recommended[33] for use in the management of diaper rash:

Tar, purified	**3.0 Gm.**
Zinc oxide	**8.0 Gm.**
Starch	**8.0 Gm.**
Simple ointment, to make	**30.0 Gm.**

Another quite simple ointment which has been used with success in England for the treatment of napkin dermatitis, consists of:[34]

Eucalyptus oil	**40 minims**
Zinc ointment	**2 drachms**
Wool fat, hydrous	**2 drachms**
Paraffin, soft, to make	**1 ounce**

Balsam Peru is a rather frequent component of diaper rash ointments. Illustrative is the following ointment which Perlman[35] describes as being serviceable for the lesions induced by the wet diaper:

Bentonite	**8.0 Gm.**
Bismuth subnitrate	**8.0 Gm.**
Balsam Peru	**8.0 Gm.**
Zinc oxide ointment, to make	**30.0 Gm.**

Another variation suggested by Lascoff[36] calls for the use of:

Balsam Peru	**16.0 Gm.**
Castor oil	**16.0 Gm.**
Bismuth subnitrate	**32.0 Gm.**
Petrolatum, to make	**100.0 Gm.**

Somewhat more elaborate, as cited by Phillips,[37] is the following alkali-neutralizing and protective oint-

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ment for the alleviation and prevention of diaper rash:

Balsam peru	1.0 Gm.
Castor oil	1.0 Gm.
Boric acid powder	2.0 Gm.
Zinc oxide	5.0 Gm.
Zinc stearate	5.0 Gm.
White petrolatum	86.0 Gm.

Mix the castor oil and balsam of Peru intimately; add this mixture to the petrolatum, mix thoroughly, and add the remaining ingredients. Mix carefully and mill until perfectly smooth.

Cod liver oil ointments have a well established place in the treatment of diaper rash and preparations containing vitamins A and D are also available for this purpose. In studies with a cod liver oil ointment (Desitin), Heimer, Grayzel and Kramer[38] found it to be a soothing, drying and healing ointment for dermatoses in infants. As part of their investigation, the effect of the ointment was tested on lesions in the diaper area. When applied to the extensive erythematous and popular lesions involving the lower abdomen, buttocks and thighs of 25 babies, the continued use of the cod liver oil ointment led to the disappearance of the condition in from four to seven days.

As might well be expected, some of the newer antibacterial agents have found a place in the formulation of ointments for diaper dermatitis. Hexachlorophene is one such material.[39] It is an active ingredient in at least one proprietary diaper rash ointment, in which it is used in conjunction with zinc oxide, starch and lanolin in an emollient base.

Quaternary ammonium compounds are also incorporated into ointments for treating diaper rash. One such ointment (Diaparene), containing methylbenzethonium chloride as the active ingredient, was used by Niedelman and Bleier[9] for the treatment of 107 infants with ammonia dermatitis. In all but eight cases the condition cleared in from one day to three weeks. Patch tests on fifty subjects yielded no evidence of sensitivity to the ointment.

The factor of compatibility is an important consideration in the development of ointments containing quaternary ammonium compounds. Thus, as members of the cationic group of surface active substances they are inactivated by soaps and anionic compounds. However, a number of bases suitable for incorporating the quaternaries have been described in the literature.[40] Indicative is the following ointment with a modified hydrophylic petrolatum base, as presented by Hart and Huyck:[41]

Quaternary ammonium compound	2.0 per cent
Stearyl alcohol	3.0 " "
Wax, white	8.0 " "
Wool fat	16.0 " "
Petrolatum, white	71.0 " "

The versatile silicones, with increasing uses in industry, are also finding their way into dermatologic preparations.[42] One such preparation (Silicote), com-

posed of 30 per cent of silicone oils in a petrolatum base, was tested by Talbot and his associates[43] as a skin protectant in the treatment of various dermatological conditions. Among these disorders were 11 cases of diaper rash; ten of which were cured or satisfactorily controlled by the silicone ointment, which repelled moisture on topical application. Most of these cases had not responded to other forms of treatment.

Soothing and drying lotions also have a beneficial role in the therapy of diaper rash. For example, Tobias[5] suggests that a soothing lotion, like the following, be applied three times daily as a part of the active treatment of the condition:

Zinc oxide	**10.0 parts**
Talcum	**10.0 "**
Glycerine	**5.0 "**
Sodium borate	**1.0 part**
Lime water, to make	**100.0 parts**

A variation of this formula calls for[33] the use of:

Zinc oxide	**12.0 Gm.**
Talcum	**8.0 Gm.**
Glycerine	**6.0 cc.**
Sodium borate	**6.0 Gm.**
Solution of calcium hydroxide, to make	**240.0 cc.**

A different type of preparation, a tannic acid hardening lotion, is recommended by Brain[15] for use prior to the application of a protective film of mineral oil. A suitable hardening antiseptic lotion for such a purpose, according to this dermatologist, is provided in the tannic acid lotion of the British "National Formulary." It consists of:

Tannic acid	**4 parts**
Solution of mercuric chloride	**50 "**
Water, to make	**100 "**

Quite often, according to Lowenburg,[1] an infant with a diaper rash will develop a secondary infection of an impetiginous nature. In order to combat this complication, he advises that the blisters or scabs which form must be removed with moist boric acid or saline compresses. This should be followed by the application of a suitable ointment containing an effective antibacterial agent.

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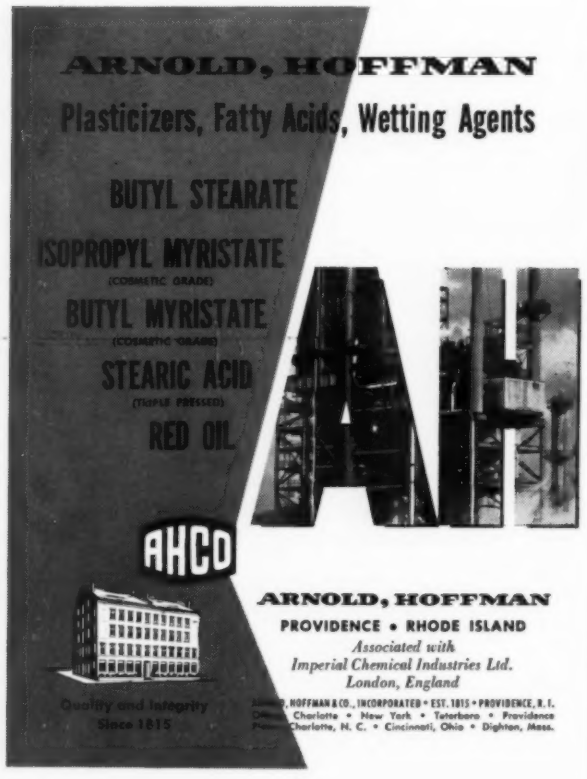

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Nutrition Research

(Continued from page 473)

and rats injected with cholesterol-bearing molecules from blood developed arterial damage within a few hours, whereas several days are required when cholesterol is fed.

These findings all tend to relate a common food constituent to a major degenerative disease. They might suggest that increased longevity is simply a matter of limiting our cholesterol intake. Unfortunately, the problem is more complex, for large quantities of the substance are normally formed within the body, and other nutrients regulate its metabolism. This is a field in which further nutrition research might prove of momentous significance to public health.

Cancer is another chronic disease in which nutrition offers interesting possibilities. Dietary manipulations have been shown to exert pronounced effects on carcinogenesis in animals. Caloric or amino acid restriction prevents or delays the appearance of a variety of tumors, and choline deficiency, on the other hand, induces liver cancer in the rat. It is doubtful that these observations are of immediate practical value: the cancer-preventing diets abolish breeding capacity, and choline occurs in a wide variety of foods. As leads in cancer research, however, these and similar findings offer many suggestions for further studies. One experimental approach is to administer chemical carcinogens to animals in conjunction with dietary manipulations, permitting precise control of two variables.

The effect of dietary alterations on human tumors already established has been slight in the few studies completed to date. In animal experiments, however, alternate restriction and supply of a vitamin, such as riboflavin or pantothenic acid, have appreciably prolonged life. And in some children, folic acid antagonists such as aminopterin have produced temporary remissions of acute leukemia. This suggests that other antivitamins might be investigated clinically. Intensive studies on animals and selected cancer patients are

needed before the role of nutrition in treating cancer can be established.

I wish to emphasize that the diet may yet be found to play an important role in the cause, prevention, and treatment of chronic diseases not known to result from dietary deficiencies, and that those diseases, in any event, concern nutritionists in that nutrients are often involved fundamentally in the disease process. Dietary inadequacy and defective utilization of nutrients are closely related problems.

Osteoporosis, a brittle condition of the bones due to demineralization, is another case in point. Clinical studies by Shorr at the Russell Sage Institute of Pathology illustrate recent progress. He reports that after maximum calcium storage, strontium can still be stored in the bones, and that maximum retention of both minerals is achieved with the aid of auxiliary agents—vitamin D, estrogen, and androgen. Osteoporosis is frequently a result of ovarian insufficiency. These facts clearly suggest an endocrine-nutrition relationship for which we have no explanation.

Other chronic diseases in which malnutrition or abnormal utilization of nutrients is a primary factor are diabetes, cirrhosis of the liver, gout, various anemias, and some aberrations of the nervous system. In this last group, the nervous and mental changes in pernicious anemia, beriberi, and pellagra are familiar examples. The possible role of metabolic factors in the entire field of nervous and mental diseases is a wide open field for exploration.

Dr. Alexander pointed out some of the findings and possible relationships involving vitamin B_{12} and the nervous system during our morning session. Clearly, the chronic diseases, constituting the major problem area in public health today, offer a world of opportunity for nutrition research.

We can easily see that the science is shifting toward deeper exploration of the function of nutrients. Nutritionists are turning increasingly to basic biochemical approaches. In the past, it sufficed to answer the questions, Is it a dietary deficiency? What nutrient is lacking? Today we must ask, What are the mechanisms of nutrition?

As we piece together the complex pattern of metabolism—map the interrelations of nutrients, enzymes, hormones, and other factors—we must develop means for assaying how well these systems are functioning in the individual. Many end results of metabolic dysfunction are recognizable clinically. We are poorly equipped, however, to detect an incipient metabolic failure, and thus perhaps avert a metabolic disease.

During the past year, Anderson's group at NIH has taken a step in that direction. They have devised a highly sensitive bioassay for insulin in blood, using the hypophysectomized diabetic mouse as an indicator. Essentially, the test consists in measuring the fall in blood sugar of mice injected with an insulin-containing specimen—at present, blood from dogs. The mice can be used repeatedly; results are obtained in half a day; and as little as three-millionths Unit of insulin can be

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detected. By emphasizing research of this type, nutritionists and allied workers, victors over the common deficiency diseases, may achieve a similar success over metabolic disorders.

Up to now I have spoken largely of investigation in what might be termed the physiology of nutrition. There is another aspect, which I should like to treat briefly—the studies supporting the concept of therapeutic nutrition. Severe illnesses, trauma, and various other stress situations may profoundly alter the body's metabolic demands. Nutritional depletion of the tissues as seen in starvation may occur. As a result, healing may be impaired, susceptibility to infection increased, and resistance to an established disease lowered. Complications, protracted convalescence, or death may ensue. These problems are being approached through methodical laboratory and clinical research, but it should be intensified.

There is evidence that high-protein, high-caloric diets administered following injury, and especially during convalescence, decrease complications and speed recovery. A great deal, however, remains to be learned. For example, the precise requirements for vitamins and electrolytes in trauma and disease are unknown, and knowledge of the role of labile proteins in injury response is urgently needed. Again, biochemical studies, both at the laboratory and clinical level, are indicated.

In recent years we have seen the emergence of a new and indispensable specialty—nutrition economics. More and more we are concerned with such problems as whether a proposed nutrition program is practical, how land can best be used from a nutritional standpoint, and what nutrients are needed in a region as indicated by data on food exchange and consumption. A realistic economic view recognizes international as well as domestic food problems.

With a view to economy of production, nutritionists and allied workers have made considerable progress in developing new food for livestock. A familiar example is the addition of antibiotics to feed. At NIH last year, Pecora and Hundley, in studies along this line, obtained some results of possible economic significance. Ordinary polished rice, the primary food of millions throughout the world, was made into animal diets containing adequate fats, vitamins, and minerals. Since the protein in rice is limited, certain amino acids were also provided. With lysine and threonine, which can be manufactured synthetically, young albino rats grew three times as well as on the rice diet alone. Then, in hopes of enhancing the effect, Pecora added aureomycin and penicillin; and growth was further increased by about a third, just as if additional protein had been supplied. Whether antibiotic and amino acid supplements have any significance for human diets can only be determined by clinical trial.

Economic considerations are basic in the whole problem of protein substitution, since high-grade protein is the most expensive food to produce in terms of man-power and resources utilized. In many laboratories, progress is being made toward the partial substitu-

tion of cheap chemicals for proteins in animal feed. Ammoniated beet pulp, urea, and other sources of nitrogen are being investigated. The economic possibilities of such research are indicated by the demonstration that sheep can live and grow on a diet containing no protein or amino acids. If inorganic sulfur and nitrogen are supplied, the essential amino acids are synthesized by microorganisms in the digestive tract. This suggests, among other projects, further research on these microorganisms, with a view to the better understanding of their identity, function, and possible use.

There are economic aspects to another problem, which I shall mention in passing. Many of you are familiar with the current interest in producing forage or human food from mass cultures of microscopic plants, such as chlorella. It seems probably that further research will develop this into a practicality.

My discussion so far has been concerned with the three categories of nutrition commonly encountered—deficient, ordinary, and therapeutic. There is yet another stage, perhaps least understood in its potentialities for public health: optimum, or ideal nutrition. Untold opportunities for research are implied in the question, "What constitutes optimum nutrition and how might it be achieved?"

We know that special feeding can promote in animals a growth response superior to that with natural diets. There are indications that steps in that direction have been effected for the American population. We know, for example, that the weight and stature of children at given ages have steadily increased, that maternal and infant deaths have reached an all-time low, and that the average life-span is longer—changes for which nutrition can take much credit. This lead us to inquire what we may yet expect precisely from nutrition programs.

Further substantial elevation of nutritional status in this country demands further research, largely to establish the implications of certain knowledge now available. We must learn, for example, whether growth acceleration actually contributes to health and longevity, and whether antibiotics, protein substitutes, and the like could play a role in human feeding. In addition, we must learn how to determine the nutritional status of individuals and groups, so that dietary supplementation can be applied more specifically and our programs be more accurately evaluated. And we must learn, as previously suggested, the role of nutrients in metabolism; in stress, trauma, and convalescence; and in the etiology, prevention, and treatment of chronic diseases.

Then too, there are the problems concerning the special nutritional requirements of the aged. This country has an increasing number of older people. In medical research as a whole, the diseases of the aged are commanding more and more attention, and yet we know very little about the nutritive requirements of this group as they may differ from those of the young adult. There are many indications of the need for intensive studies in this field.

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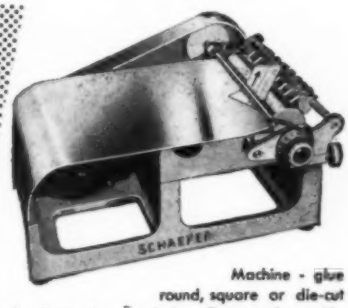

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